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ANONYMOUS IV

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MUSICAL THEORISTS IN TRANSLATION
VOLUME 1

ANONYMOUS IV

Translated and Edited

By

LUTHER DITTMER

Institute of Mediaeval Music
1751 West 9th Street
Brooklyn 23, N. Y.
U. S. A.

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An Edition of: 600 Copies

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Translations with annotations serve the purpose of making important historical documents more readily available to a larger circle of readers. It should be bourne in mind, however, that a translation is not a substitute for an original piece of work, but only a handy reference tool. Whereas every attempt has been made to render the sense and spirit of the Latin original in English, there are passages, the meaning of which is somewhat obscure, or which continue to be the subject of scholarly debate. Musicology is still a young science, and many of the things which today it has concluded, based on present evidence, tomorrow may be subject to review, proceeding *semper ad fontes*.

The erudite Edmonde de Coussemaker has left us with a basic corpus of theoretical treatises, which today continue to form the fundamental secondary source for editions of musical theorists of the 13th-16th centuries. Actually, Coussemaker's rendition of the texts has been so excellent, that few changes are necessary. In the century, however, that has passed since Coussemaker's epoch-making achievements, our knowledge of the music of the periods in question has advanced immeasurably. It is hoped that this translation will correct some of the minor flaws in Coussemaker's rendition of the present text, as well as of those mistakes which are to be found in the primary sources themselves; to achieve this a list of errata has been appended. Some of the errata are listed by Coussemaker himself, but have been repeated here since quotations from Coussemaker have not always included corrections from the emendenda.

The treatise of the fourth of the anonymous writers, according to the order of the first volume of Coussemaker's, *Scriptorum de musica medii aevi*.....1854 (with several subsequent photographic reprints), is the most verbose, informative and sagacious of all of the known essays of the 13th century, concerned with the problems of indicating the durational values of the polyphonic music of the time graphically (*id est*, mensural notation). The particular treatise appears to have been written about 1275 by a didactition, who if himself not a native of Great Britain, at least was thoroughly familiar with its music. It is perhaps incorrect to consider that the treatise in its present form represents either the lecture notes of a student or of a master, although there are many biographical details of other personalities associated with pedagogical pursuits for us to believe that the author, himself, was not a master and used the material to instruct others. Our theorist, unlike many of the others, does not resort to strong invective; he will frankly admit, after he has stated something, that this procedure is not used. Perhaps the importance of this essay lies in this point: The author is reporting, stating the alternate possibilities, giving limited information about specific compositions and posing his solutions. In short, one can give more credence to his writing, because of the apparent honesty of his manner. Anonymous the Fourth (as he is commonly called) represents the last of the theorists in the tradition of the middle ages to express the rhythm of melodies in notes, rather than durational values in note shapes. Yet, even in his own day, this was obsolescent and the doctrine of the *ordines* or rhythmic patterns of melodies is formal and complicated and almost meaningless, because it no longer represented the contemporary trend, as other theorists note by rejecting the labourious task of discussing individual rhythms in favour of the simpler expedient of giving rules for the interpretation of durational values under certain circumstances.

This author, almost alone, gives us tangible information regarding the important personalities in the world of music at Paris during the century before his stay there. Unfortunately, these personages are unknown for the most part elsewhere, so that the treatise only whets our appetite but does not satisfy it. The musical compositions cited are fortunately preserved and are listed according to Ludwig's numbers (*Repertorium organorum recentioris et motetorum vetustissimi stili,* 1910, new completed edition in progress by the present writer), the *conductus* are cited according to E. Gröninger, *Repertoire-Untersuchungen zum mehrstimmigen Notre Dame-Conductus.* Other works cited include: S. Cserba, *Hieronymus de Moravia O. P. Tractatus de Musica,* 1935; W. Niemann, *Über die abweichende Bedeutung der Ligaturen in der Mensuraltheorie der Zeit vor Johannes de Garlandia,* (Beiheft VI, Series 1, of the *Publikationen der Internationalen Musikgesellschaft,* 1902); and W. Waite, *The Rhythm of Twelfth Century Polyphony, its Theory and Practice,* 1954.

The treatise is contained in three manuscripts in the British Museum in London. It is contained in the manuscript *Royal 12 c VI* ff. 59^r-80^v, provenience Bury St. Edmunds, late 13th century, calliographically well written. The second source is *Cotton Tiberius B IX,* provenience Bury St. Edmunds, late 13th century, beginning with f. 215^r; unfortunately, this copy was largely destroyed by fire in the eighteenth century, and only smaller portions may be read. This latter manuscript, however, was the source for the copy made by Dr. Pepusch in the eighteenth century and contained in *Additional 4909* ff. 56^v-93^r.

The pages and lines of the treatise of Anonymous IV in Coussemaker's edition are contained on the following folios of the manuscript *Royal 12 c VI.*

f. 59^r	327a1	- 328a37	71^r	344a34	- 345a15
59^v	328a37	- 329a11	71^v	345a15	- 346a4
60^r	329a11	- 329b24	72^r	346a4	- 346b32
60^v	329b24	- 330a37	72^v	346b32	- 347b35
61^r	330a37	- 331a6	73^r	347b35	- 348b40
61^v	331a6	- 331b22	73^v	348b40	- 349b36
62^r	331b22	- 332a36	74^r	349b36	- 350b36
62^v	332a36	- 333a11	74^v	350b36	- 352a3
63^r	333a11	- 333b35	75^r	352a3	- 352b34
63^v	333b35	- 334b10	75^v	352b34	- 353b28
64^r	334b10	- 335a30	76^r	353b28	- 354b24
64^v	335a30	- 336a6	76^v	354b24	- 355b30
65^r	336a6	- 336b17	77^r	355b30	- 357a6
65^v	336b18	- 337a29	77^v	357a6	- 358a12
66^r	337a29	- 338a3	78^r	358a13	- 359a18
66^v	338a3	- 338b21	78^v	359a18	- 360a25
67^r	338b21	- 339b3	79^r	360a25	- 361a26
67^v	339b3	- 340a14	79^v	361a26	- 362a27
68^r	340a15	- 340b29	80^r	362a27	- 363a22
68^v	340b29	- 341b9	80^v	363a22	- End including 1-4 of De sinemenis
69^r	341b9	- 342a30			
69^v	342a30	- 343a3	81^r	364a14	- 365a26
70^r	343a3	- 343b15	81^v	365a27	- End of De sinemenis
70^v	343b15	- 344a33			

The following corrections should be made in Coussemaker's text:

Page	Line	Correction
327b	4	*eorumdem* instead of *eorundem.*
328a	9	*primus* instead of *pimus.*
328a	27-28	*inusitati* instead of *unisitati.*
328a	40	*quatuor, non plus* instead of *quatuor, plus.*
328b	4	*quidem* instead of *quidam.*
328b	10	*tanquam* instead of *tanquum.*
328b	26	*in alleluia* instead of *in antiphona.*
329a	8	*tria, duo, duo, etc.* instead of *tria, duo, duo, duo, etc.*
330a	22	*unum, tria, tria, intelligendo* instead of *unum, tria, tria, tria, intelligendo.*
330a	25	*decem* instead of *triginta.*
331a	20	*contra* instead of *inter.*
331a	29	*pro duabus* instead of *duorum.*
331a	32	Delete final *tria coniuncta.*
331a	33	Add *trium temporum* after *pausatione.*
331a	34	*brevi* instead of *brivi.*
331b	13-14	Niemann's correction of this passage p. 53 is unwarranted.
332a	6	*tria, tria, tria* instead of *tria, tria.*
333b	23	*perfecti* instead of *imperfecti.*
333b	24	*longa, longa, cum pausatione* instead of *longa, longa, longa cum pausatione.*
333b	26	*quantum* instead of *quintum.*
334a	7	Delete *longa.*
334a	15	*tantummodo* instead of *tantnmodo.*
334a	30-31	*Laqueus conteritus* instead of *Laqueus conteritur.*
334a	Footnote	*paginae 97 & 175* instead of *pagina 157.*
334b	3	*sextus procedit* instead of *quintus procedit.*
334b	34	*longa cum brevi pausatione* instead of *longa brevis.*
335a	9	*tria coniuncta, tria coniuncta* instead of *tria coniuncta.*
335a	34	*duo, et duo semper* instead of *duo, semper.*
335b	2-4	Delete the passage *una longa.....reitera.*
335b	8	Delete *una longa cum brevi pausatione etc.*
335b	10	*quatuor coniunctim semper cum perfectione* instead of *quatuor coniunctim.*
335b	12-13	Niemann's correction of this passage p. 77 is unwarranted.
335b	12-15	This passage should read: *quatuor coniunctim, ultima longa secundum materiam sed non secundum actum, addendo unam brevem, et tunc pausatio brevis altera. Et sic.....*
335b	18	*pausatione duorum* instead of *pausatione trium.*
336b	6	*tertii, potest* instead of *quarti, potest.*
336b	30	*sine pausatione* instead of *sive pausatione.*
337b	34	*Primus ordo eiusdem cum longa integra: tres* instead of *Primus ordo eiusdem: cum longa integra, tres.*

338a	4	*quatuor* instead of *quasuor.*
338b	26	*uso sive non* instead of *usi sive non.*
339a	22	*prout utuntur in* instead of *prout ntuntur in.*
339b	14-15	*depingunt vel notant* instead of *depingunt vel nominant.*
339b	28	*sinistro descendendo* instead of *sinistro ascendendo.*
339b	39	*altera parte linee* instead of *altera parte linie.*
340a	3-4	*due sunt sine proprietate et imperfecte sive sine perfectione* instead of *due sunt cum proprietate et perfecte sive perfectione.*
340a	27	*duo ultima puncta* instead of *duo prima puncta.*
340a	35	*et sine perfectione* instead of *et perfectione.*
341a	19-20	*in libris puri organi* instead of *in libris primi organi.*
341a	25	*trahetur* instead of *hahetur.*
341b	35	*a tempore et* instead of *a parte et.*
342a	3	*pro longa brevi, longa* instead of *pro longa brevi.*
342a	21	Delete *Iustitia.*
342b	25	Delete *propria.*
343b	15	*cum proprietate et sine perfectione* instead of *cum proprietate et perfectione.*
343b	17-18	*et cum perfectione* instead of *et sine perfectione.*
344b	2	*sciebat ut dicebatur;* instead of *sciebat aut docebat;.*
345a	21	Delete *due ligate.*
345b	19	*et sine perfectione* instead of *et cum perfectione.*
345b	29	*et sine perfectione* instead of *et perfectione.*
346a	14	*tres longe ligate* instead of *tres longe.*
346a	18	*due longe ligate* instead of *due longe.*
346a	23	*una longa pausatione sequenti* instead of *una longa sequenti.*
346b	2	*tres, cum una longa pausatione trium temporum* instead of *tres, longe.*
346b	4	*longa pausatione trium* instead of *longa trium.*
346b	6	Add *per tres supra primum ordinem.*
346b	28	*perfectione, antequam due* instead of *perfectione, postquam due.*
346b	33	*tres, etc. semper cum proprietate et perfectione et due cum proprietate* instead of *tres, etc. cum proprietate.*
346b	37	*longam et due coniunctas cum* instead of *unam longam cum.*
347a	2	*intellectualis* instead of *intellectuelis.*
347a	4	*et primum tertii* instead of *et primo tertii.*
347b	22	*hoc quidam posuerunt* instead of *hoc quidem posuerunt.*
347b	25-26	*intelligebant sextum* instead of *intelligabant sextum.*
348a	14	*intelligenti cum* instead of *intilligenti cum.*
348b	8	*per continuationem* instead of *pro continuationem.*
349a	17	*erit imperfecta* instead of *erit perfecta.*
350a	3	*temporis tantum* instead of *temporis tuntum.*

350a	10	*discantuum quatuor* instead of *discantium quarte.*
350a	13	*secundum diversa volumina* instead of *secundum deversa volumina.*
350b	24	*e d c c* instead of *c d c c.*
351a	13	*in tali modo primo, si* instead of *in tali modo, primo si.*
352a	31	*nuncupatur, sive* instead of *nuncapatur, sive.*
352b	23	*ergo diapente tria* instead of *ergo diapason tria.*
352b	24	*ergo et diatessaron* instead of *ergo et diapente.*
353a	12	*superquadripartiens totum* instead of *superquadrapartiens totum.*
353a	36-37	These lines should read: *quinquaginta sex; semitonium componitur cum diapente et dicitur semitonium cum diapente, quod est superquadragintaseptempartiens octagintas una. Differentia ergo inter.*
354b	16-17	*universalis antiqui* instead of *universales antiqui.*
354b	35	*armonica inter organistas* instead of *armonica. Inter organistas.*
355b	17	*c b/ c F* instead of *c G/ a c.*
355b	26	*c c,* instead of *c E,.*
355b	29	*G c,* instead of *G G,.*
356a	5-12	These lines should read: *predictis et cum eisdem, sic: c G c/ c G G/ c G F/ c G C. Iterato differendo signum secundum, sic: c F c/ c F G/ c F F/ c F E/ c F G. Iterato differendo signum secundum, sic: c E G/ c E F/ c E E/ c E C. Iterato differendo signum secundum, sic: c c C/ c C G/ c G F/ c C E/.*
356a	15	*C C C,* instead of *G G G,.*
356b	1	*multiplici* instead of *multiplicii.*
357a	34-35	*Littera punctorum* instead of *Littera iunctorum.*
357b	22	*secundum velut d; primus* instead of *secundum velut a; primus.*
357b	34	Delete *sextus contra sextum.*
358a	9	*vel sextum;* instead of *vel tertium;.*
359a	28	*das percipietas omnes* instead of *has percipietis omnes.*
360a	30-31	*Relegentur ab area* instead of *Religantur ab arca.*
360b	2	*Pater noster commiserans* instead of *Pater noster commiserere.*
360b	10	*Constantes;* instead of *Constantis;.*
361a	11	*et sonat in locis* instead of *et quiescit in locis.*
361b	11	*semibrevem, vel longam* instead of *semibrevem, vel.*
361b	26	*tardis irrespective* instead of *tardis; irrespective.*
362a	2-3	*dicitur brevis mediocris* instead of *dicitur mediocris.*
362a	9	*per festinantes;* instead of *per mediocres.*
362a	12	*sit longa minima* instead of *sit minima.*
362a	14	*est una longa minima* instead of *est una minima.*
362a	22	*quatuor sit longa minima* instead of *quatuor sit minima.*
362b	13	*sexquitertium;* instead of *sexquialterum;.*
363b	39	*homines occidentales* instead of *homines accidentales.*

The technical terms listed below have been retained in their Latin forms and are italicised in the text. In the case of nouns used in the plural, these forms are added. It should be noted that the full form of a technical term is given, even if it is shortened in the text, exempli gratia: *notae currentes* instead of *currentes*. For the sake of consistency, *sine perfectione* is used throughout instead of *imperfecta*.

brevis (breves)	The short durational value of one unit.
altera (ae)	The second of two *breves* between two *longae* in *modi obliqui*, having the durational value of two units.
festinantis (es)	A quick note in an irregular mode, probably having the durational value of a normal *brevis*.
mediocris (es)	A slow note in an irregular mode, probably having the durational value of a *brevis altera*.
recta (ae)	An ordinary *brevis*, as opposed to a *brevis altera*, used in a *modus rectus*.
simplex (ices)	A single, as opposed to a double *brevis*.
cauda (caudae)	A melismatic, textless passage of music, found especially in *conductus*.
clausula (clausulae)	A section of an *organum*, in which the tenor moves rhythmically; also called a period (= punctum) especially by instrumentalists.
color (colores)	ornamentation.
conductus (conductus) also (conducti)	A form of music not based on a preëxisting melodic sequence, in which all voices declame the text simultaneously.
simplex (ices)	A *conductus* without ornamental *caudae*.
coniunctura (coniuncturae)	A group of square and rhomboid figures not contiguous, but having all the other properties of a ligature.
cum opposita proprietate	Terminology describing a ligature, the first two notes of which are *semibreves*; it has a stem drawn upwards at the beginning.
cum, sine perfectione	With or without perfection, id est the ligature either did or did not resemble a complete or perfect form inherited from the chorale notation.
cum, sine proprietate	With or without propriety, id est this form of the ligature either did or did not retain the form of the ligature inherited from the chorale notation in its initial part.
duplum (dupla)	The second voice, corresponding to the *motetus* in motets; this voice is pitched often a fifth above the tenor.

elmuahym & elmuarifa	A rhomboid note form, or a notational complex containing such forms.
emiolius	*sesquialtera,* quid vide.
epitritus	*sesquitertia,* quid vide.
epogdous	*sesquioctava,* quid vide.
longa (longae)	The long durational value of two units.
duplex (ices)	*Longae* of five or six durational units.
florata (ae) or florificata (ae)	This term is applied to a *longa* at the beginning of an *organum purum* or to other long-held notes of the tenor; the adjective suggests that this note was modified by ornamentation.
imperfecta (ae)	The long durational value of two units, as opposed to the *longa perfecta* of three.
media (ae)	The initial note(s) of an *organum purum.*
parva (ae)	*Longa media.*
recta (ae)	An ordinary *longa,* as opposed to a *longa* of three durational units, used in a *modus rectus.*
simplex (ices)	A single *longa,* as opposed to a *longa duplex.*
tardis (es)	*Longa media.*
modus (i) rectus (i)	An ordinary mode, as the first, second or sixth, which has only *breves* & *longae rectae.*
modus (i) obliquus (i)	An oblique mode, as the third, fourth or fifth, which has notes of one, two and three durational units.
multiplex	Multiple; two numbers or a proportion in which the one part is an exact multiple of the other.
multiplex superparticularis	Two numbers or a proportion in which the larger number contains a multiple of the smaller number plus one part; thus, the double *sesquialtera* would be 5/2.
multiplex superpartiens	Two numbers or a proportion in which the larger number contains a multiple of the smaller number plus several parts; thus, the double *supertripartiens* would be 20/3.
nota currens (notae currentes)	Notes of short durational value, usually moving in a descending direction in larger groups; they have the shape of a rhomboid, and are appended to single notes and ligatures.
nota simplex (notae simplices)	Notational forms representing a single musical pitch, as opposed to ligatures which indicate several notes joined together.
ordo (ordines)	The rhythmic arrangement of notes before a rest.

organum (organa)	1. the organ, 2. a polyphonic composition for two or more voices based on a succession of notes taken from plain chant, usually with a wide rhythmic divergence between the long-held tenor notes and the rapid melismata of the upper-voices.
purum (a)	*Organum* for two voices, the usual and most highly developed type.
quadruplum (quadrupla)	The fourth or highest voice of a composition for four voices.
semibrevis (semibreves)	A notational value shorter than one durational unit; it is notated as a rhomboid.
sesquialtera	One more than two as opposed to two, or 3/2; the theorist uses the form *sexqui*, and we have made the form feminine as if to agree in gender with *proportio*.
octava	9/8.
quarta	5/4.
tertia	4/3.
triplum (tripla)	The third voice of a polyphonic composition, often an octave higher than the tenor.

The term tenor (tenores), the voice which holds to the succession of pitches of the plain chant on which the composition is based, is used without italics.

The following English terms are always used to translate the following Latin words:

discant(s)	=	discantus (discantus).
durational unit(s)	=	tempus (tempora).
ligature(s)	=	ligatura (ligaturae).
mode(s)	=	modus (modi) = (a succession of rhythmic elements).
perfection(s)	=	perfectio (perfectiones) and pes (pedes).
period(s)	=	punctus (puncti and puncta) = (a musical phrase).

All text within parentheses in the translation represents editorial additions.

Anonymous IV - CONCERNING THE MEASUREMENT OF POLYPHONIC SONG

Chapter I - Part 1

Concerning the Modes and the Ways of Arranging the Modes

In that we know about the division of melodies according to the eight modes, as used in the services of the Catholic faith, we shall now concern ourselves with questions of the measurement of the durational values, that is the length and brevity of music. This has been recorded by the ancients in treatises; such persons as Master Leo and quite a few others have arranged this material according to *ordines* and *colores*, in the following manner:

The mode, or manner, or the consideration of the durational values of a composition is the recognition of the length and brevity of a melodic tone or sound. There are the usual modes:

The first consists of *longa brevis, longa brevis, longa brevis* etc. The second consists of *brevis longa, brevis longa, brevis longa* etc. The third consists of a *longa* and two *breves, longa* and two *breves* etc. The fourth consists of two *breves* and a *longa,* two *breves* and a *longa* etc. The fifth consists of *longa, longa, longa* etc. The sixth consists of *brevis, brevis, brevis* etc.

The first mode, when it is combined with the others or with itself, results in five modes and one. The second mode, when it is combined with the others or with itself, results in five modes and one. The third mode, when it is combined with the others or with itself, results in five modes and one. The fourth mode, when it is combined with the others or with itself, results in five modes and one. The fifth mode, when it is combined with the others or with itself, results in five modes and one. The sixth mode, when it is combined with the other modes or with itself, results in five modes and one. There are no more combinations of modes than these thirty admixtures of different modes and the six of the same mode, and thus there are thirty six modes all told.

It should be noted that admixtures are quite often formed either with or without the help of rests, as may be seen from case to case. There are other modes, like those mentioned above, which split the *brevis* or *breves* into two, three or four notes, as in instrumental music. We shall have cause to speak of the measurement of the durational values of modes, etc.; we shall present in the course of this treatise many different modes formed by the splitting of durational values.

There are other modes, which are called unused modes; they are like irregular modes, although they aren't such; these are like those used in parts of England and elsewhere, and they consist of *longa, longa brevis*; and there are many more such, as shall be demonstrated in the course of this treatise.

A *longa simplex* contains two durational units, whatever position it shares, first second or third.

A *brevis simplex* contains one durational unit in any similar position.

Coussemaker p. 327a1 to p. 328a36

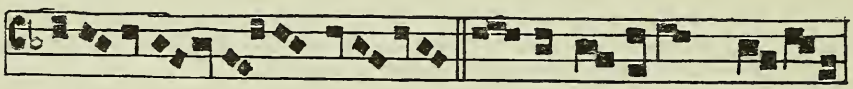
A tone of one durational unit may be defined as a sound which is not held for the minimum or maximum length of time possible, but which though sufficiently short may yet be split into two, three or four rapid notes; further division is not possible in vocal music, although this is feasible in instrumental music.

The *ordo* of a mode is determined by the number of notes occurring before a rest. Thus, an *ordo* is selected according to the principle underlying its arrangement. The basic principle of organisation of the different modes corresponds to the disposition of notes or melodic tones, which contain no rests, and which are ligated in a definite order of musical notes according to the nature of the tropes 1). Thus, any particular (*id est* rhythmic) arrangement of notes is independent of the accompanying trope (*id est* succession of melodic pitches), as if it were used only as a melodic source 1), as shown in the Graduale antiphone (*id est* verse). This was followed extensively by older composers in the books of the Church of the Holy Mother (*Eglise de la Sainte Marie,* or perhaps the Cathedral itself is meant), and elsewhere in an even more general manner as musicians have often used in different places.

Certain modes are perfect, others are imperfect. A mode is considered perfect when it ends with the same durational value as it began. A mode is considered imperfect when it ends with a different durational value than it began. The methods of making the modes perfect or imperfect vary according to the differences of the six modes listed above.

The first example of the realisation of this principle involves the first mode in this form: Take any succession of musical pitches, notably notes, sounds or tones which are thickly ligated (*id est* melismatic rather than syllabic) in a gradual. Such an example is found in *Latus,* which is taken from the *Alleluia* (V *Pascha nostrum*) *immolatus est Christus.* Write such examples down on parchment.

Ex I



Latus

After this is done, make a different disposition of the notes in accordance with the nature of the mode, unless that which you already have is sufficient. If you are going to apply the first mode, you should arrange the notes in the manner shown below in the second chapter. Thus, the notes will be arranged in the following way: three ligated and two, two, two without rests. There are, however, two things to be considered in the art of arrangement of these notes; the first concerns itself with tones and melodies, the other with suitable and appropriate notational symbols, that may be written into books, as shall be demonstrated at length in the second chapter.

——— Coussemaker p. 328a37 to p. 328b39

1) *Tropus est per quem cognoscimus principium, medium ac finem cuiuslibet meli.* Cserba p. 154_{24-25}. Thus, *tropus* refers definitely to the succession of pitches, or melodic formulae of a melody, in contradistinction to the groupings of notes, which give the durational values. This is further confirmed by the use of the term *radix,* which Iohannes de Garlandia (Cserba p. 196) also uses: *Radix est quilibet cantus primo datis,* and which we have translated as *musical source.* The example which follows in both Garlandia's and Anon. IV's treatises involves the conversion of a piece of plain chant into a measured melody (*id est,* with a definite *ordo* or succession of notes, which thereby imply a specific rhythm) used as a tenor.

The first *ordo* of the first mode consists of three notes with a *brevis* rest, and three notes with a *brevis* rest, and three notes with a *brevis* rest, and three notes with a *brevis* rest, etc.

The second *ordo* of the first mode consists of five notes, and five notes before a rest; and these are always divided into groups of three and two.

The third *ordo* consists of seven notes, and seven notes, and seven notes, always divided into groups of three and two and two, always without rests; if three notes are left over at the end, they form a first *ordo* of the first mode.

The fourth *ordo* adds two notes to this.

The fifth *ordo* adds two notes to the fourth; whenever one wishes, one may add additional groups of two notes to form additional *ordines*. It thereforefollows, from what we have said previously, that all of the *ordines* of the first perfect mode have an uneven number of notes before a rest; these notes are always found in the order of *longa brevis*, which notes constitute a *pes simplex*, no matter how often this relationship is split (*id est* into notes of smaller durational value). It should also be understood that the afore-mentioned rests have the durational value of a *brevis*, according to the arrangement or definition of the first perfect mode.

The *ordines* of the second perfect mode are arranged similarly and have the same number of components, but this mode is treated in just the opposite way in the quantitative measurement of its parts. Thus, the second perfect mode begins in this manner: two, two, two and three ligated notes at the end before a rest. The first *ordo* of this mode consists of a *brevis longa*, and a *brevis* with a *longa* rest of two durational units; this then is the first *ordo*. The second *ordo* consists of five notes and five notes, always divided into groups of two and three.

The third *ordo* consists of two, two and three notes.

The fourth *ordo* consists of two, two, two and three notes; these *ordines* may be increased by groups of two notes at the beginning of the *ordo*, never at the end, or, in other words, in just the opposite way from the first mode.

The *ordines* of the first imperfect mode consist of even numbers of notes, namely by the appendage of such groups of notes; such a mode begins with two, two and two notes without rests, but never has three notes at the end.

The first *ordo* of this mode consists of a *longa brevis*, with a *longa* rest of two durational units, to which is added a *brevis longa*, followed by a rest of one durational unit.

The *longa brevis*, the *longa* rest and *brevis*, and the *longa brevis* rest are all equal in durational value in the same fashion.

The second *ordo* of the first imperfect mode proceeds in the same manner, except that there are four notes instead of two. These are grouped as two and two notes with a *brevis* rest. As many of these may be used as desired, as we have indicated.

The third *ordo* consists of six notes, grouped as two, two and two notes with a *longa* rest, and two, two and two notes with a *brevis* rest. Thus, there are six notes and a *longa* rest, and six with a *brevis* rest, etc. This may be repeated as often as desired.

Coussemaker p. 328b40 to p. 329b16

The principle underlying the second imperfect mode is realised by having two, two and two ligated notes, but there is a difference between the principle underlying this mode and that for the afore-mentioned first imperfect mode. This mode is marked by differences of propriety and perfection of the notational symbols; the first group is *sine proprietate* but *cum perfectione,* as shall be explained fully in the second chapter.

The first *ordo* consists of two notes with a *brevis* rest, and two with a *longa* rest, and may be repeated over and over again; it is just the opposite of the first imperfect mode.

The second *ordo* consists of four notes and a *brevis* rest, and four notes and a *longa* rest, and may be repeated as often as desired.

The third *ordo* consists of six notes and a *brevis* rest, and six and a *longa* rest, and this may be repeated. Observe, that many such groupings of the same mode may be combined with specific *ordines*.

The principle underlying the third perfect mode is realised by having one *longa* and three, three and three ligated notes without a rest. The perfection is completed by the next-to-the-last note, whereas the perfection of the first mode ends with a *brevis,* and the second with a *longa,* as we have already indicated above. It should be noted, however, that the *brevis* of the first, second and sixth modes always has one durational unit. The *longa* of these modes always consists of two durational units. The *longa* of the third perfect mode, however, contains three durational units, and is the equivilent of a *brevis* and a *longa,* according to the second mode, or a *longa* and a *brevis,* according to the first mode. It is noteworthy, that the situation is similar when different voices are used together (*id est* with contrasting rhythms). The first *brevis* of the third mode contains one durational unit; the second *brevis* contains two. This is true, because, whenever there is a succession of *breves,* the more such notes approach the end of the group, the longer their durational value. This is true of the third and fourth modes, which shall be discussed below, and of every mode in which the durational values are split.

The first *ordo* of the third perfect mode contains four notes, followed by a *longa* rest of three durational units, and these notes are divided into groups of one and three. This is repeated in this fashion over and over again as often as one wishes.

The second *ordo* of this mode adds a group of three notes and contains seven, seven and seven notes, followed by a rest of three durational units. It is known that this rest completes the perfection after the group of seven notes, which are divided into one and three and three.

The third *ordo* contains three more notes than the second *ordo,* as listed above, and has ten notes, divided as above, followed by a *longa* rest. In this manner, you may understand the other *ordines* of the aforementioned mode.

The principle underlying the fourth perfect mode is realised by removing the first *longa* of the third mode; this mode then contains three, three, three and two ligated notes with the propriety and perfection as explained below in chapter two [1], (*id est* only the final liga-

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Coussemaker p. 329b17 to p. 330a32

1) This passage is discussed at length by Niemann, p. 51-53, who misinter-

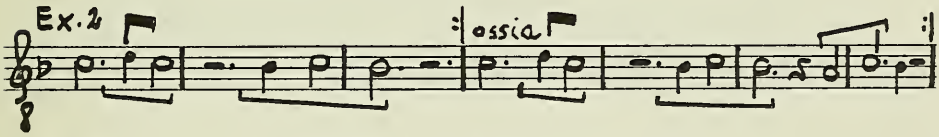
ture is *sine perfectione*). Because of these distinctions, we are able to recognise the difference between two such groups and the second or first imperfect mode, etc.

The second *ordo* adds three notes to the previous *ordo,* that is three, three and two ligated notes with a *longa* rest, as has been stated; this may be repeated over and over acain, always with a *longa* rest at the end.

The third *ordo* of this mode adds three notes to the beginning of the previous *ordo,* so that there are eleven notes, divided into groups of three, three, three and two, where the eleventh note is followed by a *longa* rest. Thus, this last case will contain eleven notes. The question of the propriety and the form of the notational symbols of all of the musical figures mentioned above and their recognition has been postponed, and will be discussed at length in the second chapter.

The principle underlying the third imperfect mode is realised by having one *longa,* and three, three, three, etc. ligated notes with two at the end *cum proprietate* but *sine perfectione.* The perfection is always completed by the next-to-the-last note of every group of three, as was shown above in other cases.

The first *ordo* of the third imperfect mode is derived from the first *ordo* of the third perfect mode but has one note less. Thus, there will be three notes or tones with a *longa* rest of three durational units. After this, there will be three notes of a different kind, again with a rest of three durational units, if it is to occupy the place of the two *breves.* This may be done differently, however, if the rest only occupies the space of a *brevis* of one durational unit. In such a case, a further group of three notes follows with a different division, resulting in an irregular mode.



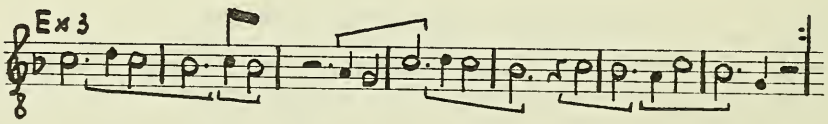
Coussemaker p. 330a33 to p. 330b23

preted the form of the final two-note ligature of the fourth perfect mode. Niemann implies that Garlandia also notates the final two-note ligature of the fourth mode as *cum proprietate* and *cum perfectione,* whereas this is actually the case only in the example reprinted by Coussemaker, p. 177, but not according to the text and example on p. 101 (= Cserba p. 201). Actually, these theorists are in complete accord with Franco and Odington, since the final ligature is always to be considered as being *sine perfectione* in this mode. Thus, the second *ordo* of the first perfect mode differs from the first *ordo* of the fourth perfect mode, only insofar as the final two-note ligature is *cum perfectione* in the first mode and *sine perfectione* in the fourth. Incidently, I had suggested that the terminology *sine perfectione* for ligatures derives from the fact that the position of the final note of such a ligature gives the impression that one further note is required to restore the ligature to the normal forms inherited from the chorale notation, (confice, *Musica Disciplina,* IX 1955). I find tacit justification for this explanation in the phrase: *sub intentione perfectionis unius longae in pausatione,* Coussemaker p. $346b_{18-19}$.

Following this example further, we have a *brevis* of two durational units, a *longa* of three, and a *brevis* of one, with a rest of two durational units; at this point, the entire process is repeated from the beginning, as if it were going around in a circle. If we were to begin with the first part of this, which we have just described, then it would be recognised by its nature as the afore-mentioned *ordo*. One of the aforementioned parts would contain a *longa* and two *breves* with a *longa* rest of three durational units; the next part would have two *breves* with a *longa* of three durational units with a *brevis* rest of one durational unit; a *brevis, longa* and a *brevis* with a *brevis* rest of two durational units are joined then to these; this can be repeated over and over again. It should be noted that the first group of notes is divided into a single note and a ligature of two notes, as if they were to be sung to different syllables; even if they are sung to the same syllable, they are not ligated, for there is no way of conjoining them, although they are understood as ligated. The next three notes are both formed and conceived of as being ligated or combined in one figure. The final three notes are both formed and conceived of as consisting of two ligated and one separate note. This series may be repeated over and over again.

As already has been stated, a different way of handling this situation is to form and conceive of a *longa* and two ligated *breves* with a *longa* rest of three durational units; the next three notes after this are both formed and conceived of as ligated; these then are followed by a *longa* rest of three durational units, which supplants the two *breves*. The distinctions between any of the groups of three notes have been shown by what has just been said. This process may be repeated over and over again.

The second *ordo* of the third imperfect mode consists of a *longa* and three ligated notes *cum proprietate* but *sine perfectione,* as has been stated previously; then, there is a *longa* rest of three durational units; following this, there are three ligated and three ligated notes, followed by a rest of one durational unit; thereupon, there are two ligated notes, and three ligated, and a single note with a rest of two durational units. This process may be repeated over and over again.



This *ordo* adds three ligated notes to the first group between the one and two notes; in the following group, it adds three notes at the beginning, and in the final group, it adds three notes after the two

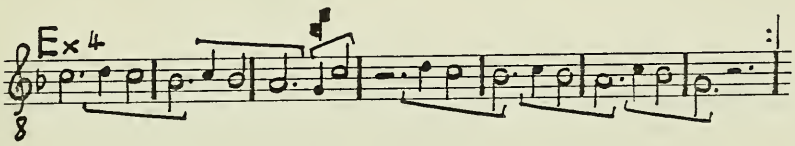
Coussemaker p. 330b24 to p. 331a21

ligated notes. This continues in a cyclic pattern over and over again, etc., either with the same or a different succession of pitches, or both [1].

A different version of this consists of a *longa,* three ligated and two ligated notes, as shown previously, and followed by a *longa* rest of three durational units. Then, there will be three ligated notes, followed by another group of three ligated notes with a *longa* rest of three durational units; finally, there will be two *breves* and three more notes conjoined; and this may be repeated over and over again.

The third *ordo* of this mode consists of a *longa,* three ligated and three ligated notes, with two ligated notes followed by a *longa* rest; after this, there will be three, three and three ligated notes with a *brevis* rest of one durational unit; after this, there will be two, three and three ligated notes with a single note, followed by a *brevis* rest of two durational units. Consider the mode to be increased by three notes after the first *longa,* thereafter by three notes before the *longa,* and finally by three notes after the two. Thus, it will be understood that all the other variants of this mode may have additions made to them in like manner, assuming of course, that the group may be increased or augmented. It is known, that the third mode, which is reduced by one note from its perfect form, is well conceived.

Another form of this mode is found when there are one *longa,* three, three and two ligated notes, only the last of which is *sine perfectione,* followed by a *longa* rest of three durational units; after this, three, three and three notes always ligated, followed by a *longa* of three durational units, which takes the place of the two *breves.* This may be repeated over and over again.



The difference between this *ordo* and the one described just before, is that this one has only *longa* rests, whereas the other one also has *brevis* rests. Another difference is that there are two methods of organising this mode (*id est* only two different rhythmic groupings), whereas the other has three methods.

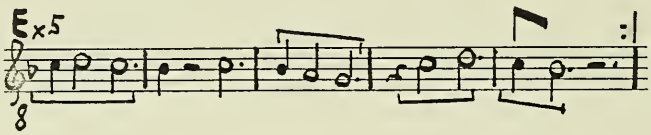
The principle underlying the fourth imperfect mode reduced by one note from its perfect form is realised by having three, three, three etc. ligated notes followed by a single one [2].

Coussemaker p. 331a22 to p. 331b14

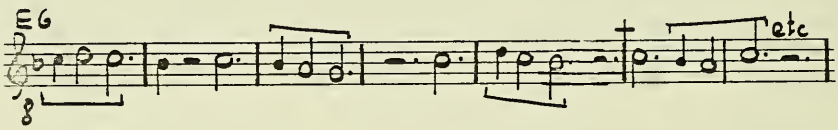
1) This and subsequent remarks of this nature undoubtedly refer to the fact, that the number of notes of the tenor could (and mostly did) coincide with the number of notes required for the completion of a cyclic formula, *id est* the tenor is repeated with the same rhythmic groupings. There are some compositions, such as those motets whose tenores are constructed in the form of a *rondeau* or other such composition, where the succession of notes in the tenor is repeated at certain times, but at others the formula has alternate material. This would provide an explanation for the use by the theorist of *vel ambo* (or both).

2) This passage is incorrectly emendated by Niemann p. 53, who felt that there should be two ligated notes *sine perfectione.*

The first *ordo* of the fourth imperfect mode consists of three ligated notes and a single note with a *brevis* rest of two durational units; after this, there is a *longa* and three ligated notes, followed by a *brevis* rest of one durational unit; after this, there are two ligated and two ligated notes *sine perfectione* and then a *longa* of three durational units; this may be repeated over and over again.



Another form of the same mode is found when there are three notes and one with a *brevis* rest of two durational units; then a *longa* and three ligated notes with a *longa* rest of three durational units, which takes the place of the two *breves*. Then, there will be a *longa* again with three ligated notes and a *longa* rest, and a *longa* and three ligated notes etc. Four more notes beyond this will no longer be in the same mode as the first groups; thus, we see that the fourth mode is converted into the third, etc.



The second *ordo* of this mode adds a group of three notes just before the last note; then, three notes are added at the end; three notes are added to the final sequence between the groups of two and two; in each case, the rests that are used correspond to the various ones listed above; this may be repeated over and over again.

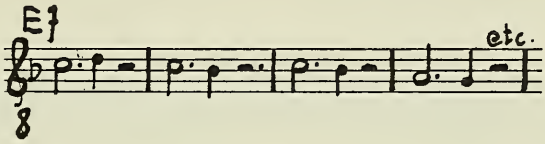
The other form of this *ordo* of the fourth imperfect mode has a *brevis* rest (of two durational units) after the first group, and a *longa* rest after the second group, as was stated above. This is then repeated over and over again leaving the first group aside, and thus, we see that the mode has been converted, as shown above.

The third *ordo* adds three notes ahead of the final note in the first group. Thus, there will be three, three, three ligated notes and a single one followed by a *brevis* rest of two durational units. After this, three notes are added at the end to the second group, so that there are one, three, three and three notes; finally, three notes are added to the final group immediately before the two ligated notes, and this is followed by a rest of three durational units. This may be repeated over and over again with the same sequence of rests.

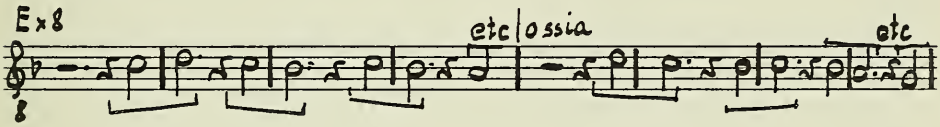
The other form of this *ordo* of the fourth imperfect mode consists of three, three, three ligated notes and a single one, followed by a *brevis* rest of two durational units; then, there follows a *longa* with three, three and three ligated notes; finally, we have a *longa* with three, three and three notes. Thus, these latter groups proceed uniformly with ten notes, differing only from the first group. Thus, the mode has been converted, as was stated previously.

Coussemaker p. 331b15 to p. 332a10

The first *ordo* of the third imperfect mode, which has been reduced by two notes from its perfect form, is realised in the following manner: one note and one note with a *brevis* rest of two durational units. Then, the *longa* and *brevis* are followed again by a rest of two durational units, and are repeated as many times as desired. For each repetition, there will be a *brevis* rest (of two durational units) at the end.



Another [1] form of this *ordo* has a *longa* rest of three durational units, followed by a *brevis* rest of one durational unit. The first note is omitted, but the second and third are ligated and are followed by a *brevis* rest of one durational unit. This may be repeated with groups of two ligated notes and a *brevis* rest of one durational unit. This then may be repeated over and over again without the rests found at the beginning.



It may be noted, that if this preceding *ordo* of two notes is used in connection with the other *ordo* of two notes, they will fit well together, whether they coïncide in sound, or whether they are used or arranged with different pitches in other such groupings [2].

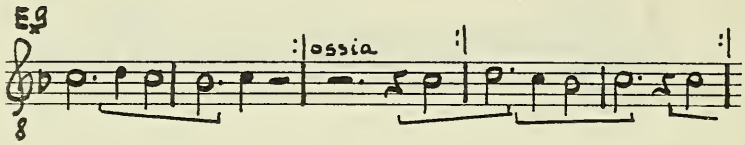
The second *ordo* of the third imperfect mode, which has been reduced by two notes from its perfect form, is realised as: a *longa,* three ligated notes and one note with a *brevis* rest of two durational units.

———— Coussemaker p. 332a11 to p. 332a36

1) Coussemaker's text is repetitious at this point, and the second paragraph expresses this *ordo* better than the first. Thus, the following paragraph is omitted in translation in the text: 'Another form of this *ordo* has a *brevis* rest at the beginning, followed by two ligated notes with a *brevis* rest of one durational unit; then, there will be two ligated notes with a *brevis* rest of one durational unit, repeated as often as one pleases. It is, however, necessary to place a double rest of one *longa* of three durational units, and one of a *brevis* of one durational unit at the beginning'. This was understood differently by Niemann p. 41-42, who added a single *longa* at the beginning of one of the *ordines*.

2) They will coïncide in sound, if, as in an hoquetus, they are combined as in Example 7 with the alternate form of Example 8.

This can be repeated over and over again. You can recognise the addition of this second *ordo* over and above the first *ordo* of the third mode as presented above, because it can be seen that three notes are added to each *ordo* immediately preceding the last note of each group. If it is necessary to continue, as shown above, begin with two ligated notes, then three ligated with a *brevis* rest of one durational unit. This may be repeated with two and three ligated notes and a *brevis* rest, and this pattern may be repeated or varied.

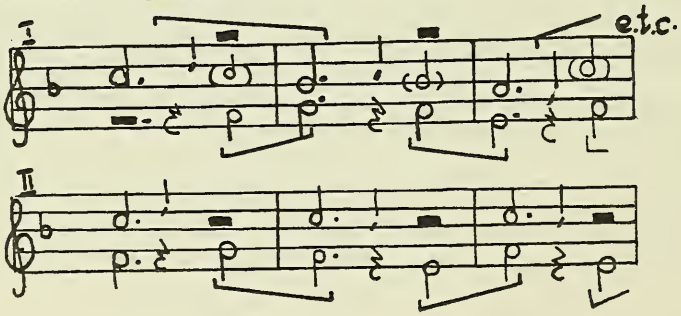


It should be noted, however, that the alternate version of this *ordo,* which we mentioned, does not begin in the same way as does this one, since the latter is preceded by a *brevis* rest of one durational unit and the other a *brevis* rest of two durational units. It should be noted, that it is better to have a single *longa* rest of three durational units, in place of two for the two *breves*. Thus, you will require for the one example, not only a single duplex rest of three durational units, but also one of one durational unit, or vice versa. When the former begins with a *longa* of three durational units and a *brevis* of one, there will be a good connection between the two (*confice* Examples 7 and 8), if they are properly combined. The same will be true, if a note, not part of the pattern, is added to the beginning of the one *ordo* to occupy the durational value of the rest and to form a consonance with the beginning of the other *ordo,* as shown above 1).

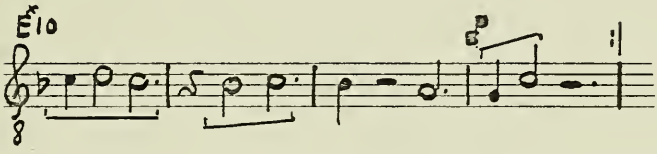
The third *ordo* of the third imperfect mode consists of a *longa* with three and three ligated notes and a single note of one durational unit with a *brevis* rest of two durational units; again a *longa* with three and three ligated notes and a single note and a similar rest; this may be repeated over and over again, but it should be differentiated as stated above.

——— Coussemaker p. 332a37 to p. 332b24

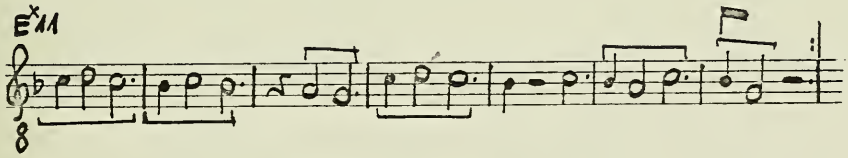
1) It would appear, that this could be realised in two ways, as shown below. In the first case, the *ordo* would become identical with the normal third mode without any rests, so that the alternation, or hoquetus-like principle would be realised only in the one voice, as in the composition in the Montpellier manuscript (Y. Rokseth, *Polyphonies du 13e siècle,* II 1936 No. 137). In the second case, the more likely, the hoquetus would be continued, but the two parts would begin together.



The first *ordo* of the fourth imperfect mode, which has been reduced by two notes from the perfect form, is realised in the following way: three ligated notes with a *brevis* rest of one durational unit, then two ligated notes and a single note of one durational unit with a *brevis* rest of two durational units, then a *longa* and two ligated notes (*sine perfectione*) with a *longa* rest. This pattern may be repeated over and over again. The various versions of this mode have been discussed in the preceding section sufficiently.



The second *ordo* of the fourth imperfect mode, which has been reduced by two notes from the perfect form, is realised in the following way: three and three ligated notes with a *brevis* rest of one durational unit, then two and three ligated notes followed by a single note of one durational unit with a *brevis* rest of two durational units, then a *longa*, three ligated notes and two ligated notes *sine perfectione* with a *longa* rest of three durational units. This may be repeated over and over again, either with the same musical pitches (*id est* repetition of the tenor) or with a different succession. This *ordo* is formed by the addition of three notes to the first *ordo*; thus, three ligated notes have been added at the end of the first part of this *ordo*, and three notes have been added to the second part between the two notes and the single one, finally for the third part, three notes have been added between the single and the two notes. The various forms of this mode have thus been demonstrated by their description; in this fashion, we can recognise all of the modes previously and subsequently mentioned.



The third *ordo* of the fourth imperfect mode, which has been reduced by two notes from its perfect form, is realised in the following way: Add three notes to the second *ordo*, as shown above, at the end of the first group before the *brevis* rest of one durational unit; then, add three notes before the last single note, which is found just before the *brevis* rest of two durational units; then, add three notes to the third group before the two notes *sine perfectione* and the *longa* rest of three durational units, in that these groups are arranged as before: three and three and three ligated notes with a *brevis* rest of one durational unit: then two and three and three ligated notes with a *brevis* rest of two durational units; finally, a *longa* and three and three and two notes, the final ligature being *cum proprietate* and *sine perfectione* in form;

Coussemaker p. 332b25 to p. 333a17

this is then followed by a *longa* rest of three durational units. This pattern may be repeated over and over again. The different versions have thus been demonstrated by their descriptions; in this fashion also, we are able to discuss the perfections, etc. All this can be understood in another way: The *longa* rest is used for the two *breves,* unless these durational values are preferred; in such a case, there will be a different cyclic kind of diminution, as has been shown above for the third and fourth modes.

The first *ordo* of the third imperfect mode, which has been reduced by three notes from its perfect form, is realised in the following manner: a single *longa* with a *brevis* rest of one durational unit; then a *brevis* of two durational units with a *longa* rest of three durational units; then a *brevis* of one durational unit with a *brevis* rest of two durational units. This pattern may be repeated over and over again, either with the same pitches or with different ones (*id est* repetition of the tenor). This *ordo* is called a solitary *ordo,* because there is no second *ordo* to it, as had been the case in the modes discussed previously, unless such an irregular pattern be made by the addition of one of the above-mentioned modes.

The first *ordo* of the fourth imperfect mode, which has been reduced by three notes from its perfect form, is realised in the following manner: two ligated notes *cum proprietate* and *sine perfectione* in form with a *longa* rest of three durational units. This may be repeated over and over again.

The second *ordo* of the fourth imperfect mode, which has been reduced by three notes from its perfect form, does not exist, unless it results from the splitting of a *longa.* It does not have a second *ordo,* since it is called a solitary *ordo.*

There is also another solitary *ordo,* which differs essentially from this in that it is reduced by four notes from its perfect form. This *ordo* is realised in the following manner: one *brevis* of one durational unit, one *brevis* rest of two durational units, one *longa* of three durational units, one *brevis* of one durational unit, one *brevis* of two durational units, one *longa* rest of three durational units. This pattern may be repeated over and over again, as said previously. These solitary *ordines* may also be found in the opposite modes (*exempli gratia,* third instead of fourth, fourth instead of third), as has been stated above and as will be shown below fully.

The principle underlying the fifth perfect mode is that it consists entirely of *longae* of three durational units never with a rest in the position of odd numbers of notes; the first perfect *ordo* consists of three notes with a *longa* rest, etc.; the second *ordo* has five notes, the third has seven, etc., always with a *longa* rest.

The fifth imperfect mode is the only mode to consist exclusively of even numbers of *longae.*

The first *ordo* of the fifth perfect mode consists of: *longa, longa* and *longa* with a rest of three durational units; then, *longa, longa* and *longa* with a rest of three durational units. This may be repeated over and over again as desired, either with the same pitches or with different ones. It should be noted, however, that each *longa* contains three dura-

tional units, and thus, each *longa* is the equivilent of a *longa* and a *brevis* of the first mode, or a *brevis* and a *longa* of the second mode, or both together, if the harmonies are well conceived, which is difficult in such sciences, unless they are changed from long durational units to more accomodating ones [1].

Certain older writers, formerly, were accustomed to notate these three *longae* in a ligature followed by its *longa* rest, whereby they used three ligated notes to designate three *longae*. Nevertheless, it was impossible to distinguish this ligature from other ligatures of three notes used in modes, which have been or will be discussed. This ligature could only be distinguished by the harmonic considerations of the upper-part adapted to it, or by the progression of the upper-voice in *longa brevis, longa brevis,* and *longa brevis* with a rest in accordance with the principle of the first mode, or *brevis longa, brevis longa,* and *brevis longa* with a rest in accordance with the principle of the second mode; in the third mode, however, one finds a *longa* and two *breves, longa* and two *breves,* etc., in accordance with the afore-mentioned *ordines*.

Thus, this use of three notes, as indicated above, is a method of notating the lower-voices in ligatures, primarily the tenores. Otherwise, it will be disjunct in lower-parts (*id est* if the *ordo* contains more or fewer than three notes) and in all upper-parts. This has been the case, ever since people began to recognise these differences, that is from the time of Perotinus the Great, and from the time of his predecessors. The further back one goes from this time, the less this was recognised, and the more one considered the relationship between the lower and the upper-voice (*id est,* note against note style of writing), or the upper and the lower-voice; there was a total of six harmonic intervals, and that was sufficient for that time. One should not wonder at that, because they used very few of the different kinds of *ordines,* which have or will be discussed sufficiently.

The second *ordo* of the fifth perfect mode consists of three and two disjunct notes followed by a *longa* rest. This may be repeated over and over again either with the same succession of pitches or a different one.

The third *ordo* of the fifth perfect mode consists of three, two and two notes all disjunct, followed by a *longa* rest of three durational units. This may be repeated over and over again. This afore-mentioned fifth mode is found in many places in different volumes of *organa,* especially in *Laqueus conteritus,* which another theorist (*scilicet* Iohannes de Garlandia) has used for an example of the fifth of the afore-mentioned modes; this same person, however, used *Regnat* for an example of the third and fourth of the afore-mentioned modes, and

———— Coussemaker p. 333b29 to p. 334a34

1) The significance of this passage is not quite clear; it would appear that an illusion is made to the transformation of modes, as also in Coussemaker p. $350a_{33}$. The harmonies (*id est,* the consonances) might be difficult to realise in the fifth mode, if all of the notes were required to form consonances with all of the notes of the upper-part, if in our transcriptions single measures of 3/4 instead of double measures of 6/4 were used. This would, of course, be obviated if two melodies, each in the fifth mode, were reduced to the first or second mode, where only the even-numbered notes would have to form consonances with each other.

exemplified the first and second modes with *Latus*, as shown in the treatise: *Habito de ipsa plana musica que immensurabilis dicitur*, in which a great number of examples is shown [1].

The principle underlying the sixth perfect mode can be seen and shown in the example *Laqueus*; the sixth mode consists of four ligated notes and three and three ligated notes to the extent desired, before the rest, but the perfection will always end with the next-to-the-last note of each ligature.

The first *ordo* of the sixth perfect mode, and all other *ordines* of this mode may be formed in two ways; either the last note before the rest is a *longa* or it isn't (*id est* it is a *brevis*). If, as in the first case, it is a *longa*, the mode is formed as follows: four ligated notes, of which the last note is a *longa* of two durational units, whereby the four notes consist of three *breves* and a *longa* having the same durational value as in the parallel melodic voice (*id est* first mode). This is then succeded by a *brevis* rest of one durational unit. The four notes with their *longa* and subsequent *brevis* rest may be repeated over and over again. You will recognise the perfections, because three *breves* constitute a perfection, and the other perfection will consist of the *longa* of two durational units with its *brevis* rest. This may be repeated over and over again with a *longa* and a *brevis* rest for each perfection, and in this manner the perfections may be distinguished. You should know that four notes with their rest may either be reduced to the first mode or to the second. There will be the same number of notes in this mode as in the third mode above, although this mode is quite different from that one. The difference, however, may be seen in their formal organisation, because four ligated notes are found before a rest in the one case (*id est* the sixth mode), and a single one followed by three ligated notes in the other.

The second *ordo* of the sixth perfect mode consists of four and three ligated notes, of which the last note is a *longa* with a *brevis* rest of one durational unit. This may be repeated over and over again. The perfections, however, always end after the group of three notes, or with the *longa* and *brevis* rest as in the first *ordo* above, which has already been treated fully.

——— Coussemaker p. 334a35 to p. 334b35

1) Iohannes de Garlandia, whose treatise is identified here by its incipit, does use the succession of notes derived from the beginning of the psalm verse V *Laqueus conteritus* from the Graduale *Anima nostra* (M 7) to exemplify the fifth perfect and imperfect modes, and the notes of *Regnat* from the *Alleluia* V *Hodie Maria* (M 34) for various forms of the third and fourth modes. *Latus* (M 14), however, is used in the treatise embedded in the compendium of Jerome of Moravia only as an example of the manner in which a tenor may be fashioned from a plain song (Coussemaker p. 98ff., Cserba p. 196ff.). In the independent treatise of Iohannes de Garlandia (Coussemaker p. 176ff.), *Latus* is used to exemplify the first mode, but not the second as mentioned in this passage. The first imperfect mode is exemplified in the first treatise by *Audi filia* (M 37) among others, and this has the same succession of notes as *Laqueus* (Coussemaker p. 102, Cserba p. 202). *Latus* does appear again to exemplify the use of rests in the first treatise only (Coussemaker p. 103, Cserba p. 205).

The third *ordo* of the sixth perfect mode consists of four, three and three ligated notes with a *brevis* rest. This pattern may be repeated over and over again. The different *ordines* simply add groups of three notes, one to the other. The first group after the first four notes is made up of three notes, as explained above, and the perfections always end with the next-to-the-last note in the groups of three, three and three; The final perfection consists of a *longa* and a *brevis* rest.

It is also possible to conceive of these three afore-mentioned *ordines* in the following manner: four ligated, the last note of which is a *brevis* with a *longa* rest of two durational units; in the second *ordo* there are four ligated and three ligated notes, in which the last note is a *brevis* followed by a *longa* rest. The third *ordo* has four, three and three ligated notes with a *longa* rest of two durational units. You should always recognise that the perfections end with the next-to-the-last note of the ligatures, and the (final) perfection consists of a *brevis* and a *longa* rest. These modes are perfect modes, just like the others, but by reducing the number of notes, they may be changed into other modes, such as the first or second. It follows from this, that the second form of the sixth mode, as discussed above, may be reduced to the second mode, and the first form to the first mode. Enough has been stated that this may be understood.

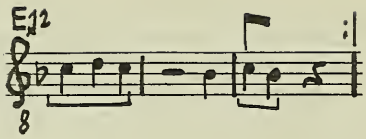
The first *ordo* of the fifth imperfect mode, which has been reduced by one note from its perfect form, is realised by having two disjunct *longae* with a *longa* rest of three durational units. This may be repeated over and over again. It should be noted, however, that an entire perfection is realised by every *longa* of the fifth perfect or imperfect mode, since this value is capable of being reduced to a perfection of the first or second mode.

The second *ordo* of the fifth imperfect mode consists of two and two disjunct notes with a *longa* rest of three durational units. This pattern may be repeated over and over again, either with the same or a different succession of pitches. Accordingly, you will be able to recognise this in each statement, as stated above and below. You can observe that the perfection is the same as in the first *ordo* of the fifth imperfect mode.

The third *ordo* of the fifth imperfect mode consists of two, two and two notes, always disjunct and followed by a *longa* rest. This pattern may be repeated as often as desired, as has been stated.

The first *ordo* of the sixth imperfect mode, which has been reduced by one note from its perfect form, like the first *ordo* of the sixth perfect mode, is heard quite often, and is realised in the following way: three ligated *breves* with a *longa* rest of two durational units; then, three disjunct *breves,* that is a single *brevis* and two ligated *breves* with a *brevis* rest of one durational unit. This pattern may be repeated over and over again. The perfections all consist of three durational units. One such perfection consists of a *longa* rest with a following *brevis*; the other, two ligated notes *sine perfectione* with a *brevis* rest.

Coussemaker p. 334b36 to p. 335b8



The second *ordo* of the sixth imperfect mode consists of the following: four ligated notes and two ligated notes *sine perfectione* with a *longa* rest of two durational units, then a single *brevis,* four ligated notes, the last note of which appears to be a *longa* by its form (*id est* the ligature is *cum perfectione*) but which is actually a *brevis* in durational value [1]. This continues for the number of times required by the cyclic process. The perfections may be distinguished as three and three notes or a *longa* rest of two durational units and a *brevis.* Of the four ligated notes, three are reckoned for the perfection, whereas the fourth together with the single *brevis* and the *brevis* rest total another perfection.

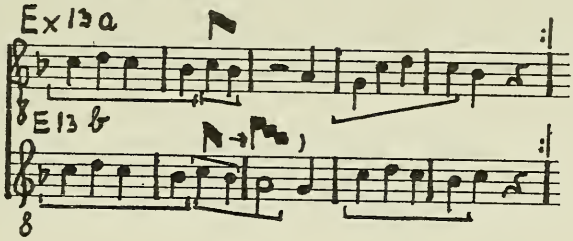
If the seventh note, however, is a *longa* (*id est* instead of a rest) then it together with its rest is added to the *brevis* and the following *brevis* to form a perfection. This is, however, quite difficult to express, since one perfection is thereby caused to overflow into the other perfection. This, indeed, is found in many songs, where, however, one does not know precisely how to define the situation. In many localities, however, this is not used, unless a breath-mark is added, which looks exactly like a rest, but which does not take into account what follows.

The third *ordo* of the sixth imperfect mode consists of four, three and two ligated notes, the final group being *sine perfectione,* and a *longa* rest of two durational units. This continues in the same fashion, as has been described, for the six notes (*id est* second *ordo*) of this mode for as many cycles as desired, etc. It should be noted that this third *ordo* may proceed more smoothly in the following manner, namely: In the first *ordo* the fourth note becomes a *longa,* counting the note and the rests. None of these rests may be omitted, as stated above, since otherwise one perfection would overflow into the other; something like this, however, can easily be expressed in the middle, and the continuation is not difficult to recognise. The same is also found in the second *ordo* in seventh position, whether this be a note or a rest. In the third *ordo* the tenth symbol may be a *longa* note or a rest. This may be continued over and over again until the cyclic process is complete. Thus, you will see that such an *ordo* of notes will not cause the perfections to cross,

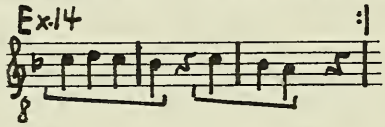
———— Coussemaker p. 335b9 to p. 336a10

1) Niemann p. 77 suggests an emendation of this passage in Coussemaker's text, which I do not believe is quite justified. The point is, that the four-note ligature of the second group of the second *ordo* of the sixth imperfect mode is to be notated *cum perfectione,* whereas the actual note value is a *brevis,* which would demand a ligature *sine perfectione,* and is not a *longa.* Thus, the passage should read: ....*quatuor coniunctim, ultima longa secundum materiam, vel secundum actum una brevis, addendo unam brevem, et tunc una brevis pausatio altera* (= further).

since whenever it occurs, there will be a distinct succession of perfections; thus, disjunctiveness in the middle of an *ordo* will cause conjunctiveness, or vice versa. *1)*.



A different form of this mode can be understood more easily. There would be four ligated *breves,* that is a series of notes with a *brevis* rest; after this, there are three notes, of which the first two are ligated and the last one is single, followed by a *brevis* rest; thus, there are three notes of which two are ligated and one stands alone and is followed by a *brevis* rest. You can recognise that the three notes are always *breves,* but there will also always be three for each perfection, three for each perfection; these may be reduced to either the first or the second mode. It does not matter if there is a *brevis* rest at the beginning, in the middle or at the end. Thus, you will be able to compute the afore-mentioned *ordines,* reduced by one note from their perfect form, if you so desire. You may also reckon the *ordines* which are reduced by two or three notes from their perfect form in the same way as in the case of the third mode above. If, however, you refer these *ordines* to the fourth mode, then you must consider them as being reduced by four notes *2)*.



Coussemaker p. 336a11 to p. 336a30

1) As Niemann p. 79-80 quite correctly pointed out, this involves a mixing of perfect and imperfect modes, in that the *longa* rest may be supplanted by a *longa* note, a breath-mark being added after this. This will, of course, cause the two-note ligature *sine perfectione* to become a three-note ligature *cum perfectione*. The difficulty in the description of the perfections (*pedes*) results from the fact that the second group of notes begins with a *brevis,* which still forms part of the old perfection, but which belongs to the new group, as if it were an upbeat. This apparently caused some confusion in certain circles, and even our theorist was not clear on this point, so that this is not used unless a breath-mark is indicated. Evidently, since there is no actual rest involved, our theorist considers this to be one long *ordo,* where the *longa* occurs in the middle.

2) Since the first *ordo* of the fourth perfect mode contains five notes, it will always necessitate the reduction by one extra note to realise the same number of notes over that required for the imperfect forms of the third mode, where the perfect form has only four notes.

What has just been stated together with that which follows in the second chapter suffices for an understanding of the sixth mode. Since it is impossible to understand this completely without having considered the forms of the notes, all possible computations have been made, such as those which involve number, perfection, figure, conjunction and disjunction. Quite often, there is a succession of notes of a certain number and quite often there are fewer. Sometimes it is better to have an *ordo,* sometimes not, according to the rhythmic arrangement.

The first *ordo,* which is called the solitary *ordo* of the fifth imperfect mode, reduced by two notes from its perfect form, is realised by having a *longa* and a *longa* rest of three durational units. This may be repeated over and over again.

The solitary *ordo* of the sixth imperfect mode, just as in the third mode, when reduced by three notes, may be considered in two ways, depending on whether the rest precedes or succeeds.

Thus, the solitary *ordo* of this mode may proceed in two ways, according to the manner in which the rests are divided in the perfection, or according to the form of the note. Thus, the note may have the form of a *longa,* as shall be treated at great length in the second chapter.

Note that quite often there is a difference in the number of notes in the *ordo*; thus, sometimes the *ordo* is quite changeable, sometimes not. Sometimes it is arranged in only one fashion, sometimes in different ways. All of the above will be treated in the second chapter.

Part 2

Concerning Smaller Values and the Splitting of the Modes

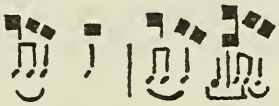
The second part of the first chapter is presented in the following manner. The first part concerned itself with the six rhythmic modes of melodies, namely the way in which sounds or melodies are perceived by themselves, or how they are or could be combined with other modes or *ordines,* as shown above. The second part concerns itself with the breaking or splitting of durational values, that is with the splitting or combining (of parts) of any *brevis* or *longa.*

The first mode consists of *longa brevis, longa* etc. The principle inherent in this mode involves the distinguishing of groups of three, two and two ligated notes without a rest. It is known, however, that this mode may be presented in the following manner: two notes for the *longa* (*id est* two *breves*) and a *brevis,* two notes for the *longa* and a *brevis,* etc., as has been sufficiently demonstrated above in the discussion of the sixth mode.

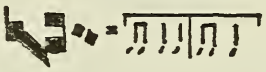
Again, this mode may be described in this manner: three notes occupying the durational value of the *longa brevis* etc. without a rest. The note forms, however, are differentiated in the following manner: First, place a note, which formally looks like a *longa,* and add two *notae currentes,* which will split the afore-mentioned *longa* into smaller note values. Thus, the note shaped like a *longa* together with its additions will have the durational value of a *longa.* If the melodic direction of the notes is completely descending, there will be a good result; similarly, if they all move in an ascending direction. Notes ascending and descending seldom occur. This can be accomplished, although this does not cause especially beautiful note shapes. We are, however, not concerned at the present moment with questions of beauty, but rather with questions of the significance of notes.

Coussemaker p. 336a31 to p. 337a14

After this, put a *brevis* and a *longa* each having its respective note form, and split the *longa* with two *notae currentes,* as stated above. Then use two ligated notes, and split the latter one with two *notae currentes* etc., and thus, we place or feel three *breves* for a *longa* etc. Thus, we have the principle of the first perfect mode with a splitting or combining of three notes for the *longa,* as has been described above.



If you wish to combine five notes into a ligature, you will have three notes for the *longa,* the next-to-the-last will be a *brevis,* and the final note will be a *longa.* You can split this *longa* with *notae currentes,* as has been stated above, using two ligated notes with *notae currentes* etc., and this will be the same as described above.

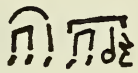


The first *ordo* of this mode with an integral (*id est* not split) *longa,* before the rest, is constituted in the following manner: five notes ligated *cum perfectione* with a *brevis* rest, five with a *brevis* rest, five with a *brevis* rest, etc. This is similar to three ligated notes with a *brevis* rest. Another form of this first *ordo,* in which there is no integral *longa,* consists of the following: five conjunct or ligated notes, of which the final *longa* is split by two *notae currentes,* then a *brevis* rest. This may be repeated with another five notes with two *notae currentes* and a *brevis* rest. Thus, you will recognise three notes for a *longa* with a *brevis* rest, three for a *longa* with a *brevis* rest etc. In this manner, you will be able to distinguish the subsequent *ordines,* those with integral *longae* at the end from those without. Two ligated notes may be added after this and they will indicate a *brevis* and a *longa,* or a *brevis* and a *longa,* namely where the *longa* has been split by two *notae currentes.*

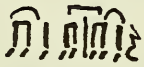
There is another way of splitting and combining the *brevis* and the *longa,* namely: three notes for the *longa,* and two for the *brevis.* The principle which underlies this is namely: the *longa* is formed with the addition of two *notae currentes* and three notes are added to this, two for the *brevis,* and the final note is a *longa* with two *notae currentes,* again three notes with two *notae currentes* in a similar fashion, and you will combine three notes for the *longa* and two for the *brevis,* etc.

Coussemaker p. 337a15 to p. 337b14

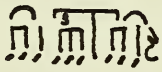
The first *ordo* of this is formed in the following manner: Take an integral *longa,* that is a note which is identical with a *longa* in form, and add two *notae currentes* which split it. Then, place three ligated notes *cum opposita proprietate,* of which the first two will occupy the durational value of the *brevis,* and the final one that of the *longa,* which is then completed by a *brevis* rest. This may be repeated over and over again.



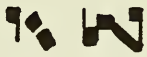
Another form of this is found when there is no integral note. For this, you take a *longa* and add two *notae currentes,* then three ligated notes as above (*id est cum opposita proprietate*), two for the *brevis* and the final note is a *longa* with two *notae currentes* and a *brevis* rest. This may be repeated over and over again.



Another form of this is found when you have three notes for the *longa* and three for the *brevis.* Thus at the beginning, you will find a note in the form of a *longa* with two *notae currentes,* then four ligated notes *cum opposita proprietate* and *cum perfectione,* of which three notes are equal in durational value to the *brevis,* and the final note, to which two *notae currentes* have been added, is a *longa,* again four notes with two *notae currentes,* as stated above etc. Thus, three notes are combined for the *longa,* three for the *brevis,* three for the *longa,* etc. 1).



The first *ordo* of this mode with an integral *longa* at the end consists of: three notes for the *longa* at the beginning, three of the four ligated notes for the *brevis* and the final one for the *longa* with a *brevis* rest. This may be repeated over and over again.

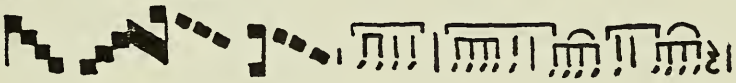


———— Coussemaker p. 337b15 to p. 337b37

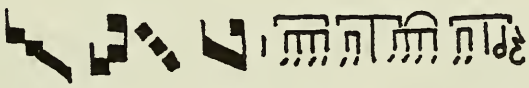
1) It is noteworthy, that in the four-note ligature *cum opposita proprietate,* the first three notes are considered *semibreves,* not just the first two as otherwise held.

In order to form the second and third *ordines* of these modes, add two *notae currentes* and four ligated notes with a *brevis* rest, etc., as often as you wish.

There is another form of the first perfect mode, namely: four notes for the *longa brevis* at the beginning, then six ligated notes, of which the next-to-the-last will be a *brevis,* and the last a *longa.* The preceding four notes will occupy the durational value of a *longa,* and the ligature will be *cum proprietate* and *cum perfectione.* The last note has three *notae currentes,* then two ligated notes *cum proprietate* and *cum perfectione* with three *notae currentes,* etc. Thus, you combine four notes for a *longa* and then a *brevis,* four for a *longa* and then a *brevis,* etc. You can thus either have an integral or a split *longa* at the end of the first, second or third *ordo.*



There is another way of forming the beginning of this mode: four ligated notes *cum* (*opposita* 1) *proprietate* and *sine perfectione,* then three ligated notes *cum opposita proprietate* and *cum perfectione,* to which three *notae currentes* have been added, then three ligated notes with three *notae currentes,* and three ligated notes with three *notae currentes,* in the same manner, etc. Thus, you will combine four notes for a *longa,* two for the *brevis,* as often as you please. You may always form the *ordines* either with an integral *longa* (at the end), or with a split one.



Similarly, if you wish to have five notes for the *longa* before the three ligated notes, use a ligature of five *sine perfectione,* if six, then six *sine perfectione,* etc. 1). Do this always at the beginning of the first *ordo,* and not elsewhere; the final three notes may be split by the addition of *notae currentes,* as often as you please, and the first *longa* may be split, if that is also your pleasure. Thus, we say, put four notes in place of the three in the manner described, that is *cum opposita proprietate,* and thus, you have three for a *brevis,* and the last note is split by *notae currentes,* as stated above. It is customarily quite rare to split notes beyond this; thus, four notes are not used in place of a *brevis* in vocal music, although this is frequently done in instrumental

———— Coussemaker p. 337b38 to p. 338a34

1) The addition of *opposita* is justified by the following paragraph.

2) Splitting the *longa* into five or six notes would mean a subdivision of the two *breves* into three *semibreves* each, or three and two. The prohibition of four notes equal to a *brevis* means that there was no further division beyond the *semibrevis* in vocal music.

music with good results. Thus, the first mode with its finely woven pattern can still be reduced easily to an integral perfect or imperfect mode with a *brevis* or *longa* rest, as long as the total durational values are equal. That which has been and which will be stated will suffice for the understanding of this example.

It should be noted, that we can recognise the second perfect and imperfect modes in the same manner as the first. For example, take two ligated notes *cum proprietate* and *cum perfectione* at the beginning with two *notae currentes,* and continue in the same manner, etc. Thus, we will be able to combine three *breves* (*id est* two *semibreves* and a *brevis*) for a *longa* and three *breves* for a *longa,* etc.; in this manner, you can form the first, second and third *ordines,* each in its own way, in the same fashion as we have formed the first *ordo,* since there are just as many ways of doing this as in the first mode, as stated above. The difference between the two modes, however, is this: In this case, the first note is a *brevis,* etc., and thus, a *longa* follows, as given in the definition of this mode. Therefore, the second mode is just the opposite of the first mode, which consists of a *longa brevis.* Nevertheless, there is no difference in the ways in which note-values may be split by *notae currentes,* whether the *longa* or the *brevis* be involved, etc.

The third mode consists of the following: the first *longa* contains three durational units, and is the equivilent of a *brevis longa,* or of a *longa brevis*; the first *brevis* which follows contains one durational unit; the second *brevis* contains two durational units, since these two *breves* are equal in durational value to the first *longa.* Thus, if this mode is reducible to the second mode, it is split or divided according to the arrangement or divisions of that mode; if this mode is reducible to the first mode, accordingly then in the pattern of that mode. From what has been stated, we can gather, that the *brevis* of one durational unit may be split into three or four notes, and the second *brevis* into six or eight notes, and the initial *longa* into nine or twelve notes [1]; this is found in some localities, and others not. The note values are to be split according to the circumstances of vocal music, and according to that which fits better according to the nature of the second or first of the afore-mentioned modes, and according to their note shapes, as shall be demonstrated sufficiently in the second chapter below.

We can recognise the same thing in the fourth mode, which is just the opposite of the third in long and short note-values. We don't, however, speak of this mode as the opposite form of the third mode in the sense that there is an alteration of the place of the *longa* and the *brevis* in the perfection.

Split the fifth mode in the manner listed above, and this shall suffice for that.

The sixth mode may be split according to the first or second mode, as shall be shown at great length in the second chapter.

In addition, if what has been said above has been demonstrated to too limited an extent, it will be discussed in the following six chapters sufficiently and satisfactorily together with the triple perfections, that is: full, perfect and final. In this context, we might add to what has been said before: The knowledge of all propriety that can be perceived is attributable to the full and final perfection of the knowledge of truth.

———— Coussemaker p. 338a35 to p. 339a6

1) Evidently the splitting into larger numbers of small values is intended only for instrumental music.

Chapter II

Concerning Notes and Note Shapes

The second chapter will present the following material: 1. discuss the forms of musical notes, as they are depicted in books, and the manner in which they express melodies, and 2. treat the durational units in two ways. According to the first method, the durational values are presented simply as absolutes without a descriptive passage being added; according totthe other method, they are described.

Musical notes, as absolutes, can be classified in two ways: They are either single notes, that is notes which have nothing added to themselves, and are used in combination with other such notes, or they are combined in ligatures.

Certain single notes are used in chant books, and certain ones are used in books containing polyphonic music; in the latter case, the use of these notes differs according to the various volumes (*id est* according to the different fascicles, and consequently according to the different types of compositions). Thus, they are used in certain of our books of different categories, as they are also used for different kinds of music for all sorts of instruments, etc., as shall be shown in the following.

The musical shapes, referred to above, have been called notes by various persons, whereby one musical shape is called a note. Others call them figures, since a note may also be called a figure. Still others term them *notae simplices*. In this fashion, a musical tone may be formalised with a musical symbol.

There are three kinds of simplex figures found in chant books; the first kind stands upright with a short stem drawn from the right side; the second stands upright without the afore-mentioned stem. The third kind retains the form of the *elmuahym* 1). It is a figure which is called a

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Coussemaker p. 339a7 to p. 339bl

1) According to its first description, the *elmuahym* is a note form identical with the plicated *longae* and *breves*, videlicet: . In this form, it may be protracted obliquely upwards or downwards to form, what Robert de Handlo (Coussemaker p. 394) calls an *obliquitas*, scilicet . These latter forms have this in common with the form of the *semibrevis*, they are both drawn obliquely. The *ellar*, is the normal form of the first *muarifa*, which could be considered irregu- note of the *coniunctura* in England, *id est* . In the sense of the shape of the *semibrevis*, the term is used first to designate the *notae currentes* , which are drawn like oblique figures. Finally there is the *elmuahym*, that others call a *semibrevis*, and which is used in conjunction with another similar note, or which forms the third durational part of a *brevis*; such notes, however, can only be used in connection with themselves, as if they were *notae currentes*. It is not clear from the context, as Waite p. 84 seems to feel, that two *semibreves* are held to be equal in durational value. Incidently, whereas the continental form of the *semibrevis* is derived from the continental form of the *coniunctura* , the English form is derived from its typical form . For the Arabic terms used here, confice the footnote by J. Handschin, *Zeitschrift für Musikwissenschaft*, XIV 1931-1932, p. 321.

plica, and stands upright with one stem or with two, either in an ascending or descending direction, etc. Good notators depict notes in the afore-mentioned fashion. Certain writers make square shapes with or without stems, as was just stated; others do not make square shapes, but form their notes like a quadrangle or like quadrangles. Thus, since such notes rest on the long side, they are extended or protracted in length, and may have or lack a stem. The *elmuahym* is often protracted in an oblique direction, and others protract the *elmuahym* in a similar manner.

Certain *elmuarifa,* which could be considered irregular, have a stem drawn downwards on the left, such as the English depict and notate, but they are identical in sound (*id est* meaning).

Musical shapes or notes may be combined together into groups of two, three, four or more notes, as found in liturgical and extra-liturgical books (*id est* troparia).

Two notes may be combined in a ligature in the following manner: one square may rest directly above another square, and these are called two ascending notes, if they are joined by a stem on the right side; the higher note, however, can appear a little smaller than the lower. It should be noted that no ascending figure used for musical melodies may have a stem on the left side drawn downwards from the first note. Two descending ligated notes are recognised in another fashion: The first symbol has a stem on the left side drawn downwards from the first note, and another stem on the right side attached to the next note. The second figure, either a square or a quadrangle, is, however, not immediately below the first (*id est* it is to the right). It may be noted, that if these two ligated notes move in an ascending direction, they are called perfect, when the second one rests immediately above the first. The two notes are thereby designated as two ligated notes *cum perfectione.* When the first note does not have a stem, as stated above, they are said furthermore to be *cum proprietate* and perfect or *cum perfectione.* In the case, however, of two ascending notes, where the second note is joined to the first, but does not rest above the first, its perfection is determined by this fact; since, also, the first note may have a stem drawn downwards on the left side of the first note, such a ligature of two notes may be said to be *sine proprietate* and imperfect or *sine perfectione.*

Three ligated notes which are all in an ascending direction can be distinguished in the following manner: Cause one square to be joined to another square, note to note or corner to corner protracted laterally; then take another square connected with the second one and placed immediately above it, as stated in the description of ligatures of two notes. Accordingly, this ligature may be considered *cum proprietate* and *cum perfectione* following the considerations mentioned above, as explained at length in the case of ligatures of two notes. We may look at this in another way; take the two ligated notes, that we described above, and add a quadrangle below them so that the uppermost tone is connected on the right side with the lower square; this square in turn is connected on the left with the lowermost tone, and the result again is three notes similar to the three described above.

———— Coussemaker p. 339b2 to p. 340a18

Three notes which are found exclusively in a descending direction are formed in the following manner: Take two descending ligated notes, as stated above, and add a square to the latter figure, no matter how the second note was joined to the first one. It is, however, not possible to join this final note to a higher one, unless the stem be removed, which in practise is not possible or done. (*id est* not).

Three ligated notes may be formed in another fashion: Take two notes, such as the two former notes of the three ascending ones, as stated above, and add a square below the second one. The highest tone is connected on the left to the first lower note and on the right to the second one. The connection with this part may either have an intermediary or itself be immediate; it is immediate, if it has no stem, etc.; it has an intermediary if it has a stem, These notes, therefore, proceed in an ascending or in an ascending direction, and may be said to be *cum proprietate* and *cum perfectione,* as stated above.

Groups of descending and ascending ligated notes can be formed in two fashions, notably: Draw a descending stem, and from the stem protract a short or long *elmuahym* (oblique figure). Above the latter note, put an upright square, and join the right side of the one to the right side of the other. The second way of forming this, is to take two descending ligated notes, and put a square over the latter note, and join them, as stated above; this figure will now be *cum proprietate* and *cum perfectione* (*id est* however, this is not the usual form).

Thus, we have the rule that: Every figure which begins in a descending direction, if the first note has a stem on the left, is said to be *cum proprietate.* If this ligature begins in an ascending direction, and the first note has no stem, it is also said to be *cum proprietate.* The perfection of a figure is marked by the relative position of the final notes. If the ligature ascends at the end, and the final note rests above the next-to-the-last, then the ligature is said to be perfect. If, however, the final part of the ligature moves in a descending direction, then, whenever the final note is a square and connected with the others, it is *cum perfectione.* If the notes are not entirely squares, but are joined in a descending direction obliquely, the perfection is designated by this fact (*id est* the ligature is *sine perfectione*). You can regard four ligated notes similarly to the extent that their perfection is determined by the end of the ligature; the middle notes are distributed, however, as stated above. This is the extent to which the ecclesiastical melodies use notational signs.

When these are used with *notae currentes,* they take the following form: Draw a square with one stem on the right side. Draw next to this, in an oblique direction, two, three or four *elmuahym,* and these are called *notae currentes,* just like the others which will be discussed exhaustively below. In certain other books, however, five, six or seven such *notae currentes* are used and are combined with other musical symbols also.

Coussemaker p. 340a19 to p. 340b28

Performers call some of the figures (*notae*) *simplices* and others ligatures; as far as the *notae simplices* are concerned, some are called *longae* and others *breves*.

There are many kinds of notes having the form of the *longa*; for example, there is the *longa* which represents two durational units, as in the first, second and sixth modes, as explained above; and this is formed with an upright quadrangle or square with a stem drawn downwards. There is another *longa simplex,* which expresses three durational units, as in the (third,) fourth and fifth modes, as above in the first chapter, and all of this has been mentioned before.

Again, there is another *longa* which may represent either the value of two or three durational units, as stated above, and this one is plicated either in an upward or downward direction, as others have said. It is an ascending *longa,* if it has a stem drawn upwards, or if it has two upward-drawn stems on the right and left side. The stem on the right side must be longer than the other to indicate that this is a *longa,* according to the larger or smaller durational values of notes, or according to the differences of the modes, as stated above. Again, there is another *longa* which is called a *longa duplex,* and which contains six durational units, or not less than five (*id est* when it is made imperfect by a single *brevis*). This is a note, which is drawn out at great length, as you will see; it is almost as if two or three *longæ* have been put together into a square to which a stem, drawn downwards, has been added on the right side.

Again, there is a certain note, which is like a *longa simplex* in form, and which precedes *notae currentes.* It is divided into as many parts as there are *notae currentes* following them in the same fashion (*id est* it looks like a *longa,* but actually is a note of short durational value). There are also other *longae,* and they express the larger and smaller durational values, as occur quite often in books of *organum purum* 1).

There are also many interpretations for the note which has the form of the *brevis.* One of these forms presents, for example, an upright square without a stem and is said to be a proper *brevis* in form, because it depicts a *brevis recta* of one durational unit, as found in the first, second or sixth modes, as discussed at length above.

There is another *brevis* which contains two durational units, because it designates the durational value of two units, such as the second *brevis* of the third and fourth of the above-mentioned modes; and this note has the same form as mentioned above.

Again, there is another *brevis* which is a square, as mentioned above, but which has two stems drawn upwards or downwards; the stem on the right, however, will always be shorter than the one on the left; such a note will either have the durational value of one unit or two, as explained above.

———— Coussemaker p. 340b29 to p. 341a33

1) Certain English compositions, as *exempli gratia* those in the Worcester Fragments Nos. 44 and 47 (confice my edition: *The Worcester Fragments,* 1957), use an alternation of *longae* to express the rhythm of the composition (*id est,* a *longa duplex* is a long note value, a *longa simplex* a short one).

There is also a notational figure which is called an *elmuahym*, or *similar to itself*; this figure always lies obliquely in a certain fashion, although it designates different things. Often, it is called a *semibrevis*, if it either follows or precedes a similar figure; in other cases, it forms the third part of a *brevis*, and this is the case when three of these notes are placed together as if they were *notae currentes*; in this case, three such notes constitute a *brevis*. Similarly, there might be four *notae currentes* taking the place of a *brevis*, but that rarely occurs and never in vocal music, but may be found in music for stringed instruments.

It should be noted that one often finds a stem on the left side of the first note of such a series to distinguish it from what precedes, (*id est* as the English use).

It should also be noted that the afore-mentioned figures can be recognised in different ways as occasion demands according to the different modes, either when they are actual musical sounds or when they are rests.

Some of the ligatures are called *cum proprietate* according to the nature of their initial parts, others *sine proprietate*, and finally others *cum opposita proprietate*, as described in the opusculum or treatise, the beginning of which reads: *Habito de ipsa plana musica*, (*id est* the treatise of Iohannes de Garlandia).

It should also be noted that certain musical figures are used when there is no text, and some when there is text. If there is no text, one should ligate notes as much as possible. If there is a text, one should ligate on occasion (*id est* when no change of syllable interferes). These ligatures designate the length and shortness of the durational values, as already noted above in the consideration of the modes, etc., and as shall be explained at length below.

Since we have already spoken of the *notae simplices* above, we shall limit ourselves here to a discussion of the ligatures and the methods of determining their significance. The first of these ligatures is fashioned *cum proprietate* and *cum perfectione*, and is like those ligatures which are written normally. All ligated figures which are *cum proprietate* and *cum perfectione* are interpreted in the following manner: The next-to-the-last note is a *brevis*; the final note is a *longa*. If there is a preceding note or notes, it combines with the next-to-the-last note to form a *longa* [1]. Every figure which is *sine proprietate* and *sine perfectione* has just the opposite succession of durational values; the next-to-the-last note is a *longa*, the final one a *brevis*.

———— Coussemaker p. 341a34 to p. 341b33

1) This rule is more flexible than the Franconian rule, which states that the first note of a ligature *cum proprietate* is a *brevis*, since it permits the three-note ligature at the beginning of the first mode to be interpreted as *longa brevis, longa*. The ligature *sine proprietate* and *sine perfectione* under consideration here apparently has only two notes, although a three-note form *sine proprietate* but *cum perfectione* is used by Garlandia (Coussemaker p. 101 and 179, Cserba p. 201) to notate the first *ordo* of the second perfect mode, scilicet *brevis longa, brevis*.

These rules were used in many older books; this was so during and after the time of Perotinus the Great. Nevertheless, they did not know how to distinguish these notes from those which will be presented shortly. This was so even since the time of Leo [1], because two ligated notes were put for the durational value of a *brevis longa,* and in a similar manner three ligated notes were quite often used for a *longa brevis, longa.*

It should be noted that Master Leoninus, about whom it has been said that he was the greatest composer of polyphonic music, created a great book of polyphonic settings of the (solo parts of the) Graduale and the Antiphonale, with many different settings for Divine service; this was in use until the time of Perotinus the Great, who shortened this book, and who composed many very fine *clausulae* or musical sections, whereas he became the greatest composer of discantile compositions; and he was a greater composer than Leoninus, although there is no question about the subtilties (*id est* rhythmic complexities) in Leoninus's polyphonic compositions.

Master Perotinus composed certain excellent four-voiced polyphonic settings, such as his *Viderunt,* and *Sederunt,* using an abundance of colouration of the harmonic art. In addition, there were renowned three-voiced polyphonic settings, such as his *Alleluia* V *Posui adiutorium,* (M 51) and V *Nativitas* (M 38), etc. [2].

He also composed *conductus* for three voices, like the *Salvatoris hodie,* and *conductus* for two voices, like the *Dum sigillum summi patris,* and *conductus* for one voice, among others his *Beata viscera,* etc. [3].

The book or the books of Master Perotinus were used until the time of Master Robert de Sabilone in the choir of the Marian Church in Paris [4]; and they were similarly continued in use from that time until the present day. The method of notation was perpetuated by Petrus, the greatest

———— Coussemaker p. 341b34 to p. 342a26

1) There are apparently two distinct personages: Leoninus the original composer of the *Magnus liber,* and the theorist Leo, whose treatise is reconstructed in my *A Central Source for Notre-Dame Polyphony,* p. 89-93, and who is mentioned at the beginning of the present treatise. It would appear that Leo might have been the first of the mensural theorists, and this passage may allude to him, in which case it refers to the formulation of a rule, which took place after the Perotinian epoch. Waite p. 59 apparently feels that this Leo is identical with the Leoninus of the following paragraph, which is also quite possible. The corrections in the Latin text are from Waite, *loco citato.*

2) These numbers refer to the designations of these compositions in Friedrich Ludwig's, *Repertorium organorum recentioris et motetorum vetustissimi stili,* 1910.

3) For these sources, confice Gröninger, p. 90, 126 and Ludwig, *Repertorium* p. 124. *Iustitia* is an error in Coussemaker's edition p. 342; confice F. Ludwig *Archiv für Musikwissenschaft,* V 1923, p. 187 footnote 2.

4) For the question of whether reference is made to the Cathedral of Notre Dame as we know it today or to the *Eglise de Sainte-Marie (de la Vierge),* consult Niemann pp. 5-6 footnote 2. It is quite possible, as Niemann suggests, that Robert de Sabilone was the first director of music in the Cathedral.

notator, and Iohannes called the *Primarius* (distinguished) and others for the most part until the time of Master Franco the First and the other Franco of Cologne, who began to notate certain things differently; for this reason, there are certain rules which are peculiar to this tradition (*exempli gratia,* as opposed to the ideas of Lambertus = Pseudo Aristoteles).

Accordingly, there were certain persons with hindsight, for whom the above-mentioned rules were not sufficient, and they began to use the sign of opposite propriety, as mentioned above. They maintained that in every figure which was *cum opposita proprietate,* that the final note was a *longa,* and that the preceding ones had the durational value of a *brevis.* It follows, therefrom, that there must be fewer than three ligated notes either in actuality or in concept *cum opposita proprietate,* because if only two notes were to be *cum opposita proprietate,* they would equal the first two notes of the ligature with the three afore-mentioned notes of the same propriety. Thus, if a *longa* were to follow, it, together with the other two notes, would have the same durational value as the three notes, as stated above. If there are four, five or six notes in such a ligature, they have the same total durational value as the three.

There is another imperfect figure, which is drawn or formed in a way different from what has been said above. There is no rule for this, unless we discuss it in terms of perfections. As far as this reduction into perfections is concerned, it quite often occurs that sounds repeat the same pitch, whereby every ligature is said to be ascending or descending, as stated above. Here, however, where the tones have the same pitch, and are neither ascending nor descending, it is consequently not possible to fashion a formal ligature out of these, although it is possible to ligate them in one's mind quite easily by rendering the equivilents and reducing them into *longae* and *breves.* Therefore, two such ligated notes with a disjunct *longa* following will form the equivilence of three notes, as stated above. Consequently, there will be two notes for the *brevis* and one for the *longa,* just as if there had been three ligated notes, where there are two notes for the *brevis* and one for the *longa.*

The situation would be analagous, if there are four notes similar to these; then there would be three notes for the *brevis,* and the final one would be a *longa,* etc. All of this would total one durational unit if the figure *sine perfectione* were notated *cum opposita proprietate.* If the figure is *sine perfectione* and *cum proprietate,* as said previously, the ligature is made perfect by the first *longa* following, or by its equivillence according to the arrangement of *longae* and *breves* of its mode. In such a case, the entire group is assessed just as if it were *cum proprietate* and *cum perfectione,* as stated above. If it should happen to be *sine proprietate* and *sine perfectione,* then it is made perfect by the first *brevis* following, according to the universal rule (judging such cases). Each case is to be assessed according to the rules stated above. Note, however, that there is a difference when only four notes are presented, from the case of more than four. If there are only four notes, they proceed according to the method outlined above: The next-to-the-last note is a *longa,* the final one is a *brevis,* and the preceding two occupy the durational value of a *brevis.* Others explain this in a different fashion; accordingly, the next-to-the-last note is a split *longa,* which is easier to comprehend, and may be analysed in this manner. They call the last note as well as the first one a *brevis,* and the middle two notes together constitute a *longa.* Thus, these two notes are actually equal in durational value to three notes, and either are or are not reducible to a perfection. This is true, furthermore, for many notes which can not be ligated formally, but which are conceived of as being ligated.

Coussemaker p. 342a27 to p. 343a5

It should be noted that every ligature which has more than three notes can or must be reduced to three ligated notes of the same kind. Thus, it is that every ligature with more than three notes, that is *cum proprietate* and *cum perfectione,* is reducible to a ligature of three notes *cum proprietate* and *cum perfectione* in durational values. In a similar manner, we understand that those which are *sine proprietate* and *cum perfectione* are reducible to three ligated notes *sine proprietate* and *cum perfectione.* In a similar manner, the figures *cum opposita proprietate* and *cum perfectione* may be reduced to like forms. From what has been said, the different combinations mentioned arove may easily be applied to others. Any lack of completeness in what has been said will be compensated for by copious exemplification below.

Figures with text or above a text are treated as *notae simplices*; if they are well drawn or notated, there will be no ambiguity in their interpretation, as was true in the case of the many composers of polyphonic music who gathered all sorts of settings for Divine service in their volumes. Pleasurable Divine efficacies are treated according to their uses in different parts of the world, in accordance with Sacred Scripture, where it is said: *Laudate Dominum in timpano et choro,* etc. and continuation (Psalm 150). It should be noted, that the difference between texted and textless parts, is that when there is no text, you ligate two, three or four notes, or as many as possible, according to the best possible arrangement of notes, as shall be shown below. When there is a text, one sometimes ligates notes, sometimes not; for the main part, however, one has disjunct rather than ligated notes. This yields the following rule: Every notational symbol, as it reveals itself by its name, may be elongated or abbreviated. The division of the notational symbols follows the syllabification of the text, since every syllable will have a *nota simplex* with further notes attached to it. Others explain this, that by virtue of having a different syllable, every note is said to be an absolute entity, since it can not be combined to form a ligature. If it is to be combined, one note alone can not be combined with itself, but must have another or other notational symbols, with which it can be combined; for example, a *brevis recta* with one syllable and a *longa recta* connected to another syllable would form the equivilent of two ligated notes *cum proprietate* and *cum perfectione,* according to the afore-mentioned rules, namely that every figure may be notated *cum proprietate* and *cum perfectione,* etc. (and will be measured as *brevis longa*). Another case, if there is a *longa* on one syllable, and a *brevis* on another, and a *longa* for a third syllable, they will form the equivilence of three ligated notes *cum proprietate* and *cum perfectione* [1]. Again, if there is a *longa* to one syllable, and two ligated notes *cum proprietate* and *sine perfectione* to another syllable, if a *brevis* and *longa* were to follow, they would form the equivilence of three ligated notes *cum proprietate* and *cum perfectione.* The initial *longa* could not be

———— Coussemaker p. 343a6 to p. 343b18

1) *Cum proprietate* is correct according to the present treatise, but Franco of Cologne would have required a ligature *sine proprietate* and *cum perfectione* to establish a ligature with both an initial and a final *longa.* Such a ligature is avoided by our theorist, because it might indicate an *ordo* of the second mode, which has the irregular notation of s three-note ligature *sine proprietate* and *cum perfectione.*

ligated. The two ligated notes with the *brevis* and *longa* following could be ligated and they would be the equivilent of four ligated notes *cum proprietate* and *cum perfectione* 1). If there are three ligated notes to one syllable *cum proprietate* and *cum perfectione,* if a *brevis longa* follow, or if they are treated as an absolute, their quantity is shown, since they are equal to a *longa, brevis, longa,* according to the rule, which states: Every figure *cum proprietate,* etc..... If, however, the three afore-mentioned ligated notes are *sine perfectione,* then they will be made perfect by the following *brevis* and *longa.* In such a case, they will form the equivilence of five ligated notes *cum proprietate* and *cum perfectione.* Five notes, however, may be reduced to four, and four notes to three; thus, all the notes, from the first to the last, will be equal in durational value to three ligated notes *cum proprietate* and *cum perfectione* 2).

Again, if two ligated notes to a syllable are formed *sine proprietate* and *cum perfectione,* which, however, is not used too often, and there is a *longa* to the following syllable, together they form the equivilence of three ligated notes *cum proprietate* and *cum perfectione.* Again, if there are two ligated notes *sine proprietate* and *sine perfectione* to one syllable and the same to another syllable, and a *longa* to a further syllable, they form the equivilence of three ligated notes *cum proprietate* and *cum perfectione,* and of two notes *cum proprietate* and *cum perfectione.* Thus, any one who knows the rules given above has all the information necessary to figure these out, as shall be shown fully below 3).

———— Coussemaker p. 343b19 to p. 344a5

1) It makes more sense to have the following series of ligatures than one as suggested by Coussemaker, since the first the fe- fulfills the conditions more exactly, whereby com- text syllables would not extend over the per- the ction. Thus, if the four notes at the end were in bined in one ligature, they would be notated in following manner: following fashion: . Actually, have three dura- initial *longa* could be combined rist the ligatures one ligature, they would be notated in the beginning of the , but since the first *longa* would included the first *longa.* tional units, and since for our theo- *cum proprie-* *tate* are used for the of the first mode, it would be ambiguous to have

2) This would necessitate that would become the equivilence of . If five notes are the equivilence of three, then they would have to be *cum opposita proprie-* *tate,* whereas four notes would be *cum proprie-* *tate.* In this regard, we again see that the three-note ligature *cum proprietate* and *cum* *perfectione* is measured *longa brevis, longa* according to this theorist.

3) In the first case, our theorist evidently feels that a three-note ligature *cum proprietate* and *cum perfectione* may equal three consecutive *longae,* as in the first *ordo* of the fifth mode, scilicet: . The second case is more straightforward where the three-note ligature still has the modal significance of an initial *longa,* whereas the sub- stitute form has been made mensural (*id est, sine proprietate*).

Thus, from what has been said, we gather that every ligated figure containing more than three notes, or two ligated and one, or one and two ligated, can be related to a form having three ligated notes. As far as those which are said to be *cum proprietate* and *sine perfectione* are concerned, initially there were many different ways of notating them. They were treated, however, in an ambiguous manner, since there was no real way of notating them 1). In the older books, there was an exceedingly large number of ambiguous note-forms, since all of the *notae simplices* had the same form. The musicians at this time could only reason things out, saying: I know this note to be a *longa,* this one to be a *brevis.* They suffered under this for an exceedingly long time before they knew that which we all know and which, by means of what has just been stated, makes all of the difficulties inherent in notational problems simple of solution. Thus, one progresses more in one hour in this fashion, than in seven previously.

Concerning what we have just discussed, the greater part of the knowledge of the ancients did not take into consideration the formal shapes of notes. They had based their knowledge of consonances on entire melodies, especially on the octave, fifth and fourth. More information about these intervals will be given below in the fourth and fifth chapters of this treatise. Accordingly, the upper-voice respected the lower-voices. These persons taught others, saying: Listen to them and be guided by them while singing. They had, however, few distinct notational forms, and they said: The upper-voice must form a good consonance with the lower-part, and that is enough. This was the way they stated the problem for a long time, before they began to teach differently.

The notational symbols were codified about the time of Perotinus the Great, and a little before him, and they were taught in a more abbreviated fashion. After this, there was Master Robert de Sabilone, although he taught rather extensively, but he made the vocal melodies too pretentious.

For this reason, a notable Parisian, Master Petrus Trothun, Aurelianus, concerned himself with plain chant. Nevertheless, he knew too little, as was rumored, about durational values. These were matters, however, which the afore-mentioned Master Robert knew intimately and was able to teach well.

After this, there was Master Petrus, the greatest notator, who followed these teachings, and who notated his books in a manner which was exceedingly faithful to the uses and habits of his master.

At this time, there was a person, who was called Thomas de Sancto Iuliano, an old Parisian; he did not notate according to the method of the others, but followed closely the method of the older notators.

There was also another Englishman, and he followed the English method of notating, and he taught there also.

———— Coussemaker p. 344a6 to p. 344b15

1) This ligature is only really important in compositions with rhythmic text. For the ambiguities of form in this ligature in the Montpellier manuscript (*H 196*), confice my article in *Musica Disciplina* IX 1955.

A certain Iohannes, mentioned above, continued all of the methods of notation alluded to above after these theorists and during his own life time and until the time of Master Franco, with other masters, such as Master Theobaldus Gallicus, and Master Simon de Sacalia, a certain Master (Iohannes) de Burgundia, and a certain honourable gentleman from the Picardy, whose name was Iohannes le Fauconer.

There were good singers in England, and they sang beautifully, like Master Iohannes filius Dei 1), or like Makeblith in Winchester at the imperial court of King Henry the Last 2). There was also another good singer of many different kinds of songs and polyphonic compositions and other types of music. We shall have cause to mention these other kinds below, etc.

Again, two ligated notes *cum proprietate* and *sine perfectione* above one syllable with a *longa* following, may be related to three ligated notes *cum proprietate* and *cum perfectione,* or if a *brevis* and a *longa* follow, they may be reduced to three, in a similar manner 3).

In a similar fashion, we can conceive of four, five and six notes, *cum proprietate* and *sine perfectione,* with a following *longa* above one syllable, as being related to three ligated notes. In the books of certain of the older writers, no such significance was paid to the notational forms. They were able to proceed only according to their understanding, always using forms which were *cum proprietate* and *cum perfectione.* Such notation is found in the books of the Spanish and the Pamplonians, as well as in the books of the English; there were different gradations of this, sometimes more (attention was paid to notational devices), sometimes less.

The French, or the Parisians, had all of the above mentioned methods of notating, as is shown in different books by different notators. In the following, we shall concern ourselves with the methods of evaluating these.

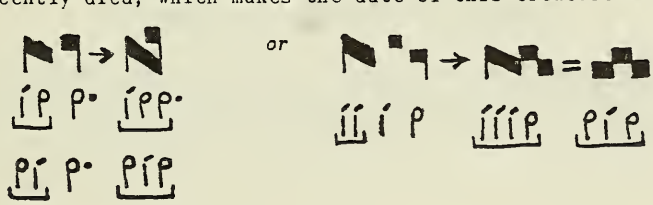
The first mode utilised note forms as in the first chapter in this fashion: three ligated notes *cum proprietate* and *cum perfectione,* after this two ligated notes *cum proprietate* and *cum perfectione,* and in a similar manner two, two, two ligated notes, to as great an extent as desired. The principle underlying this mode is treated below.

Again, the first *ordo* of this mode consists of three ligated notes *cum proprietate* and *cum perfectione,* with a *brevis* rest, etc.

Coussemaker p. 344b16 to p. 345a23

1) Ludwig (*Archiv für Musikwissenschaft,* V 1923 p. 315) draws attention to the fact that W. Dugdale (*The History of St. Paul's Cathedral in London,* 1658 p. 220) lists the presentation in 1295 of a good troper to the library of St. Paul's Cathedral by a Iohannes filius Dei.

2) Identified by J. Wolf, *Geschichte der Mensuralnotation,* I, p. 15-16 as Henry III (1216-72). This note is important for dating this treatise, since, as Wolf points out, *Henricus ultimus* probably refers to the fact that the king has just recently died, which makes the date of this treatise as circa 1275.

3) 

The following paragraph is repetitious in Coussemaker's text and is omitted.

The second *ordo* adds two ligated notes *cum proprietate* and *cum perfectione* to the first *ordo*. The third *ordo* adds two notes to the second, in a similar manner. The fourth *ordo* similarly adds two notes to the third, and this may be continued as far as one wishes, whereby the rule follows: There will always be one more group of two ligated notes after the three, always *cum proprietate* and *cum perfectione*, that the number of the *ordo*. Because the *ordo* must always involve an increase by two ligated notes, you will find that a single note can not be added, since this is not used; however, one note added to three notes is in use, at least among those persons who do such things [1].

The principle underlying the second mode is realised in the following notational manner: two, two, two etc. ligated notes *cum proprietate* and *cum perfectione*, with three notes at the end *sine proprietate* and *cum perfectione*.

The first *ordo* of this mode is notated in the following fashion: three ligated notes *sine proprietate* and *cum perfectione*, with a *longa* rest of two durational units, etc. This may be repeated as often as one wishes. The second *ordo* is formed with two ligated notes *cum proprietate* and *cum perfectione*, and three notes *sine proprietate* and *cum perfectione*, with a *longa* rest of two durational units. The third *ordo* increases the second *ordo* by two ligated notes. These are added at the beginning and not at the end of the *ordo*. In the case of the first mode, as mentioned above, the notes were added at the end of the *ordo*, and not at the beginning, that is after the three and two notes. Thus, in the second mode, the fourth *ordo* adds two ligated notes before the third *ordo*. You can check practical examples by these rules to see what the principle of notation is, as was done with the chorale fragment *Latus* above. In this fashion, we are adle to understand the perfect modes.

The principle underlying the first imperfect mode can be realised in two notational manners. The first method proceeds like the first perfect mode, namely: three, two, two, two etc. ligated notes all *cum proprietate* and *cum perfectione*; at the end, however, a single *brevis* is added, which makes the mode imperfect. Others say that the second method of notating is better, namely: two, two, two, two etc. ligated notes all *sine proprietate* and *cum perfectione*; thus, there will never be a single note alone at the end, since one of their rules is: Nothing must be written disjunctly, that can be ligated. There is, however, another rule which is in opposition to this one, namely: that you must not notate *sine proprietate*, if you can notate *cum proprietate*; and that nothing must be made *sine perfectione*, which may be fashioned *cum proprietate*. That which expresses one's meaning best, however, should be used.

The first *ordo* of the first imperfect mode is realised in the following manner: two ligated notes *sine proprietate* and *sine perfectione* followed by a *longa* rest of two durational units; then, two ligated notes *cum proprietate* and *cum perfectione* and a *brevis* rest of one durational unit. This is the best known *ordo*, but is seldom used; and this may be repeated over and over again, as often as you wish.

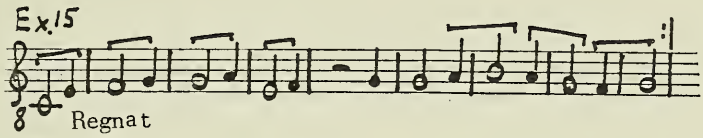
——— Coussemaker p. 345a24 to p. 345b33

1) This might occur where there are two successive notes of the same pitch, where the one ligature must be split. In such a case, one of the notes might be joined to a previous or following ligature.

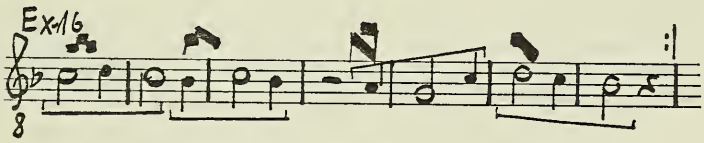
The second *ordo* adds two ligated notes similar to the first ones (*id est, sine proprietate* and *sine perfectione*) for the first group and two notes similar to the second ones (*id est, cum proprietate* and *cum perfectione*) for the second group; the rests consist of a *longa* for the first group, and a *brevis* for the second.

The third *ordo* adds two ligated notes similar to the first group to the second *ordo,* and two ligated notes similar to the second group.

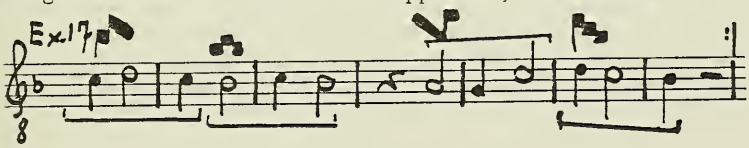
The fourth *ordo* adds two ligated notes to the third *ordo,* and two ligated notes to the second part, as stated above.



The principle of notation may also be realised in the following manner: three ligated notes *cum proprietate* and *cum perfectione* followed by three ligated notes *sine proprietate* and *sine perfectione,* etc. Others, however, don't consider this to be proper, as stated above, whereby it is not used except in a certain type of song, as shall be aptly demonstrated below, as well as above in the examples using *Latus.*



The principle underlying the second imperfect mode is realised in the following manner: two, two, two etc. ligated notes always *cum proprietate* and *cum perfectione.* Another form of this mode has three ligated notes *sine proprietate* and *cum perfectione,* and three *cum proprietate* and *cum perfectione,* etc. This is, however, not used, as also was said concerning the similar form of the opposite, first mode.



The first *ordo* of this is formed in the following manner: two ligated notes *cum proprietate* and *cum perfectione* in form, although actually to be understood as being *sine perfectione* (*id est* really because the perfection is not complete) followed by a *brevis* rest of one durational unit which completes the perfection of the previous note [1];

———— Coussemaker p. 345b34 to p. 346a21

1) The point is not that the previous note of two durational units and the following *brevis* rest form a perfection but rather that the group is conceived of as a ligature of three notes. The two-note ligature is perfect in form, accordingly, but to be conceived as imperfect, since it is only completed by the final note, in this case a rest.

after this, there are two ligated notes *cum proprietate* and *sine perfectione* in form, followed by a *longa,* or two ligated notes *cum proprietate* and *cum perfectione* in form, but not understood as such. Actually, they are understood as being *sine perfectione* and the perfection (of this ligature) is completed by the *longa* rest which follows, etc. Fashion all of the *ordines* of this imperfect mode in a similar manner, in the same way as stated above for the first imperfect mode. The propriety and the perfection of this mode, however, will be just the opposite as for that mode, etc. According to this last rule, and with the help of consonances, you will be able to solve the greated part of the ambiguous places in the books of our predecessors. This is possible either when text is present, or when there is none if repeated notes should cause the ligature to be broken up, etc. Because of this, it is not necessary in such sciences always to hold completely to the precise propriety and perfection, but the result is always better and the music can be presented better and in a more compact manner, as shall be sufficiently demonstrated below.

The principle underlying the third perfect mode is realised in the following manner: a *longa,* three, three, three etc. ligated notes *cum proprietate* and *cum perfectione,* with a *longa* rest of three durational units.

The first *ordo* of the third perfect mode is formed in the following manner: a *longa* and three ligated notes, with a *longa* rest of three durational units, etc.

The second *ordo* adds (three ligated notes) to the first *ordo.*

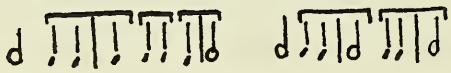
The third *ordo* adds three ligated notes to the second *ordo.*

The fourth *ordo* adds three ligated notes to the third *ordo,* and these groups are always *cum proprietate* and *cum perfectione,* and are followed by a *longa* rest. Whereby it follows that of the three ligated notes after the *longa,* the first two are *breves.* The English sing in this irregular mode. They speak of this mode as consisting of two ligated notes and a *brevis,* etc. Quite often the *brevis* is equal in durational value to the two ligated notes, and quite often it isn't 1).

The principle underlying the fourth perfect mode is realised in the following manner: three, three, three etc. ligated notes *cum proprietate* and *cum perfectione,* with two ligated notes *sine perfectione* at the end. It is intended that the perfection of these two ligated notes be completed in the *longa* rest, although the rest can not be counted, as is often shown 2), when the first *longa* of the third mode and one at the end have been removed.

———— Coussemaker p. 346a21 to p. 346b22

1) This may be a reference to a binary version of the third mode as practiced in England and elsewhere, confice my *Binary Rhythm, Musical Theory and the Worcester Fragments,* in *Musica Disciplina,* VII 1953 p. 48, footnote 7.



2) The difference between the third and fourth modes is that in the third

The first *ordo* of the fourth perfect mode is formed in the following way: three ligated notes *cum proprietate* and *cum perfectione* and two *cum proprietate* and *sine perfectione*, followed by a *longa* rest.

The second *ordo* adds three ligated notes *cum proprietate* and *cum perfectione* ahead of the two ligated notes *cum proprietate* and *sine perfectione*; this then is followed by a *longa* rest.

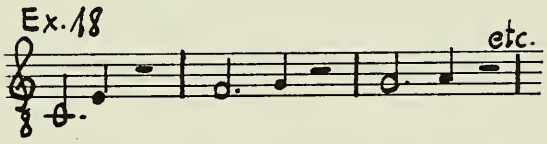
The third *ordo* similarly adds three ligated notes to these.

The fourth *ordo* similarly adds three ligated notes to these.

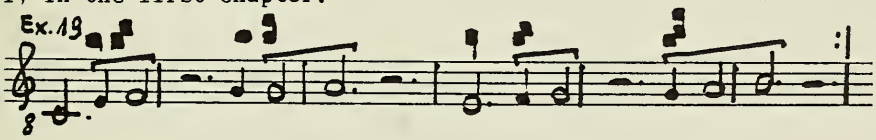
The principle underlying the third imperfect mode is realised in the following manner: a *longa*, three, three, three etc. ligated notes always *cum proprietate* and *cum perfectione*, followed by two ligated notes *cum proprietate* and *sine perfectione*, etc.

The first *ordo* of the third imperfect mode which has been reduced by one note from its perfect form, is realised in the following manner: Remove the last note from the ligature of three notes, no matter how it was notated, and retain the rest, letting them be formed as a *longa* and two ligated notes *cum proprietate* and *sine perfectione*, or understood as such, or both, and followed by a *longa* rest. In this way, we can derive the first *ordo* of the third imperfect mode from the first *ordo* of the third perfect mode. In the same fashion, we can derive the second *ordo* of the third perfect mode from the second *ordo* of the third perfect mode, and the third *ordo* from the third, and the same is true for all *ordines*.

Again, there is the first *ordo* of the third imperfect mode which is reduced by two notes from its perfect form, or by one note from the first *ordo* of the third imperfect mode as depicted above; this is notated in the following manner: a *longa* and a *brevis* with a *brevis* rest of two durational units.



It is to be noted, that it is not possible to shorten the other imperfect modes mentioned above. For the continuation of the mode which was mentioned above (*id est* the third imperfect mode reduced by one note from its perfect form), after the *longa* and the two *breves* with a *longa* rest, put three ligated notes *cum proprietate* and *cum perfectione*, followed by a *longa* rest which is equal to the two *breves*. Thus, you will be able to distinguish the above-mentioned modes from all of the other imperfect ones. The individual *ordines* have thus been exemplified adequately with the consideration of this one mode, as explained more fully in the first chapter.



Coussemaker p. 346b23 to p. 347a23

The principle underlying the fifth perfect mode is realised in *longae* which are not ligated, and which have no rests in any position corresponding to an odd number of notes.

The first *ordo* of this mode is found in two different ways both in older and more recent books; the one method uses three *longae* not ligated followed by a *longa* test, etc. There will always be three, that is an uneven number of notes. The other way is to have three ligated notes *cum proprietate* and *cum perfectione,* and a *longa* rest of three durational units, and then three and three more ligated notes, etc. Actually, these ligatures are not exactly proper, when one takes into account all that we have stated. This notational device is used, however, in the tenores of discants or motets, because of the excellence of notation and according to the following rule: Whatever can be ligated, should not be written disjunctly. In other *ordines* of this mode, however, the notes are never ligated, but are always written disjunctly. This mode always involves oddnumbers of notes, so that the second *ordo* consists of five *longae* all disjunct with a *longa* rest. Similarly, the third *ordo* consists of seven *longae* all disjunct, with a *longa* rest, etc.

The principle underlying the sixth mode is realised in two ways, according to whether the mode is reducible to the first or to the second mode. If the sixth is reducible to the second mode, the following pattern is realised: two ligated notes *cum proprietate* and *cum perfectione* with a stem (*plica*) at the end drawn either upwards or downwards, and two more ligated notes with a stem, and two with a stem etc. without any rest. There will be a single *brevis* at the end to make the mode perfect, since without this the series would exemplify the principle of the imperfect mode, and it would become the sixth imperfect mode. If, however, the sixth mode is reducible to the first, one proceeds as follows: four ligated notes *cum proprietate* and *cum perfectione* with a stem drawn either upwards or downwards, then two ligated notes *cum proprietate* and *cum perfectione* with a stem, and two ligated notes with a stem, two, two, two etc. without a rest etc.

This stem, however, quite often fools performers, because they don't know how far to go up or down, unless they are excellent musicians. Accordingly, others have used four ligated notes at the beginning without a stem, and after that three and three and three ligated notes, all *cum proprietate* and *cum perfectione*. They are able to recognise the sixth mode by this pattern, and this is easily seen in the *Alleluia* V *Posui adiutorium* [1] after the first *longa* rest. Others will speak of the passage after the first clausula, which still others call a period, using the language of instrumentalists; they say, that this is sufficiently shown after the first period.

Another such passage is offered in the second period (*clausula*) [2] of this *Alleluia* etc., accordingly, we can proceed with the discussion of its *ordines*.

———— Coussemaker p. 347a24 to p. 347b35

1) Reference is made to M 51, most easily available in transcription in Y. Rokseth, *Polyphonies du 13e siecle,* II 1936 p. 31ff. measures 9ff. Garlandia, *Coussemaker* p. 180, also makes reference to this passage, although the example is corrupt, and is better in *Cserba* p. 202 and *Coussemaker* p. 101.

2) Probably, reference is being made to measures 13-19 which repeats some of the melodic material of measures 9-12. Otherwise, the composition does not appear to contain a comparable passage.

The first *ordo* is formed in the following manner: four ligated notes *cum proprietate* and *cum perfectione* etc. The final note can be conceived of in two different ways; either it is a *longa* or a *brevis*. If it is a *longa,* then it is equal to two *breves*. If this is the case, then the first three notes take the place of a *longa* and a *brevis* and then the *longa* with a *brevis* rest constitutes the second perfection, etc. This may then be continued. This method of notating can be increased or decreased by diminution in the same manner as the third mode above, but in this case, the first note is always ligated, whereas it had been disjunct before.

Another form is to have four ligated notes *sine proprietate* and *cum perfectione* with a *longa* rest of two durational units, if the mode is reducible to the second [1]. Or you could have two ligated notes *cum proprietate* and *cum perfectione* with a stem (*plica*) and a single *brevis*. This form of the mode is worse than the other, although sometimes it is better or about the same, as for example whenever there are repeated notes. This will suffice for the present in this second chapter for the understanding of that which follows, as stated above.

Chapter III

Concerning Rests

The third chapter of this treatise concerns itself with the kinds and durational values of rests. A rest is a pause or omission of sound for a definite length of time or durational units, and has either the value of a *longa* or a *brevis* according to its use in the six afore-mentioned modes. There are many kinds of rests. One kind is a single rest, another a double, another a triple and another a manifold rest. A single rest is one, which has the durational value of a single *longa* or a single *brevis* of any of the afore-mentioned modes. The durational value is measured with consideration to the succession of *longae* and *breves* immediately preceding the rest, according to the *ordo,* as *exempli gratia* the first or second mode etc. If the first perfect mode is used in ligated form immediately before the rest, the rest will be a single *brevis* rest of one durational unit. The afore-mentioned mode will continue anew after this rest. If the same mode is followed both before and after the rest, whether this be perfect or imperfect, the rest is considered perfect in its own right.

The rule follows: Every rest of the first or second mode, etc., if the same mode is used both before and after the rest, is or may be considered to be a perfect rest. Thus, the afore-mentioned rest is perfect because of the manner of its employment. We would say the same thing, if the rest had the durational value of a *longa* of two durational units in either the first or second modes. In such a case, the note just preceding would be a *brevis,* as also the following one in the continuation after the break, etc. This would be true, even if the first imperfect mode preceded the rest and the second perfect or imperfect mode followed, for example.

———— Coussemaker p. 347b36 to p. 348b11

1) The use of this ligature is analagous to its use in the second mode, which is formed with three ligated notes *sine proprietate* and *cum perfectione*.

Let us return to the first *ordo* of the first mode, as exemplified by the tenor *Latus*. This example was also shown above with all the perfect *ordines* in the second or opposite mode, or was offered fully in all the perfect and imperfect forms of this mode. The largest rest possible will have the durational value of a *brevis*, when a *longa* both precedes and follows in the first mode. This is so, because every regulative rest continues the preceding mode; after the following section, it may be used again with the same excellent results, etc.

It should be noted that there are two kinds of rests. There is one kind which separates the different modes from each other. The other kind unites them, and does not separate modes, whereby the same mode continues both before and after the rest. Thus, this latter rest does not separate the modes except for the duration of the rest. Thus, there can be a *longa* or a *brevis* in the first perfect or imperfect mode, or in the second perfect or imperfect mode. As far as the sixth mode is concerned, it can either be considered by itself, or as reducible to the first or second mode. Rests also fit very well into the third mode, where they can have the durational value of one, two or three units; similarly in the fourth mode. In the fifth mode, rests will have the durational value of three units. In this mode, the rests will only have different values if one of the modes (*id est* rhythmic values) is split either in its own right, or for the purpose of introducing another mode, as stated above.

A double rest is one in which the single *longa* or *brevis* rest has been doubled, tripled or quadrupled, etc. The last rest should properly be called a manifold rest, and is used often to indicate a change of mode for a series of notes.

Thus, the durational value of the rest may be established according to one method by equating the upper and lower—voices. Alternatingly, they may be established by the indicated length of the notational stems (*id est* vertical lines designating the extent of the rest), as may be seen in many older and more recent books.

The first example is both conceived of and realised in the same fashion. It is shown in the first *ordo* of the first perfect mode as follows: *longa brevis* and *longa* are sung, and *brevis, longa brevis* are rested; then, *longa brevis, longa* are again sung, and the pausing and singing continue.

Thus, we have the rule: If the mode is either perfect or imperfect before the rest, and if it continues with the same note values as it had ended, the rest will be perfect. If these note values, before and after the rest, are different, then the rest will be imperfect and cause a different disposition of *longae* and *breves*.

Thus, if a perfect mode is used before the rest, and the same mode is followed both before and after the rest, a double or a manifold rest will also be perfect. If, however, there are different modes before and after, such as the first mode before the rest and the second mode thereafter, the rest is imperfect when there is an even number of notes, and perfect when there is an odd number of notes or durational values, taking into consideration the substitution of equivilent notes. The reason for this is that every perfect mode must end with the same durational value as it began. In the case where the two notes consist of a *brevis* and a *longa*, such a group is ended by a durational value different from the one which began it. Thus, an even number of notes, considered either below or above (*id est* in the lower or upper-voice), will result in an imperfect mode.

Coussemaker p. 348b12 to p. 349a33

Manifold rests are only found in the first and second perfect or imperfect modes and in the sixth mode to the extent necessary. They fit better into the third, fourth and fifth modes, where there are durational quantities of one, two and three units. This is true whether the modes are used in their own right, or whether they are reduced to any of the afore-mentioned modes. Sufficient examples of the fifth mode can be shown that are perfect and imperfect, where double and manifold rests are used following odd and even numbers of notes, as stated above. If, however, this mode is split and is reduced to the first, second or sixth mode, other rests are found which are understood universally, generally, specifically and individually according to their use in their *ordines*, as they shall be explained in notational symbols below.

An example of the first kind of single rest is offered by the tenor *Latus*, where the rest is a *brevis*. Another example is found in the above-mentioned second perfect mode in *Latus*, where the rest will be a *longa* of two durational units. A rest of three durational units is found in the tenor *Regnat* in the third perfect mode. It should be noted, that the notational symbol for a rest, placed between two melodic passages of the same or different *ordines*, is called a stem. There are many ways of indicating the precise nature of a rest. One way is to extend a stem from one line to the next, or to cover the space in between two lines, which are ruled in by notators of music.

Certain notators were accustomed to write music for plain chant in between two lines of text, or above one line of text, and they ruled four lines of the same colour. Older notators didn't follow this procedure, except when three of the lines had different colours; others would use two colours, and still others would use only one colour. The lines were ruled by a metal stick, as in the books of the Carthusians and of others. The books of the composers of polyphonic music in France, Spain and Arragón, and in parts of Pamplona and England and in many other places, did not follow this procedure, as is clearly shown in these books. Instead, these notators used red or black inked lines of one colour. At the beginning of each line, they put a clef on such notes as C, F or G or other convenient places. Certain of the older writers, however, used different placements of a square to indicate the signature. This, however, is not practiced by us; we place, however, a sign at the end of each line, just as in plain chant, so that the pitch of the first note of the next system of four lines may be recognised (the *custus*).

A single rest or notational stem, which has the width of one space has the durational value of one unit. If the stem is lengthened from one line to the third one following, or if it covers two spaces, then it occupies two durational units. If it is even longer and covers all four lines, or the entire width of the stave, then it occupies the time of three durational units.

It should be noted, that composers of polyphonic music utilise five lines in their books, although the tenores of discants have only four, because the tenor is usually taken from plain chant, where it is notated on four lines. Certain others, for different sections, always use five lines, whether they are following the method of notating discants or not. This may be seen in simple, double, triple and quadruple *conductus*.

Coussemaker p. 349a34 to p. 350a17

In two-voiced, and in the majority of three-voiced *organal* compositions, only four lines are used for the tenor, unless the person ruling the lines has made an error. The upper voices, however, always have five lines. This has been stated so that if a line is drawn across the entire width of all the spaces, this stem is considered to have ended the clausula or period.

It should be noted that whenever the *brevis* is split into smaller durational values, that this is shown by a line which has the length of half a space, or by one which does not have the length of an entire space, which if realised would indicate a rest of one durational unit. Such a stem usually indicates the equivilence of the third part of a *brevis*. It is better, however, to draw it even smaller than necessary.

An example of the *semibrevis* rest can be shown to those who know how to reduce modes or change one mode to another, as for example to those who can derive the second mode from the fifth. They reduce the upper-parts or part according to the manner of the second mode. This was done by certain Parisians; this is still done in the case of the Gallican hoquetus *In seculum,* which was written by a certain Spaniard. The rests which are found here are called half rests [1].

There is also another kind of rest, which looks like a rest but really is none, and is called a breath mark. It does not occupy any durational units in itself, but takes its time values from the sound which immediately precedes it. Thus, it is quite often found in manuscripts for practical performance, that a stem may indicate a breath mark or a rest. Such a stem is to be found in the great three-voiced composition *Posui adiutorium* in the first clausula or first section, as well as in many other places. This stem must be drawn as if it were the smallest possible kind of rest and written obliquely to the previous note in the upper-part, because there is a different kind of stem which is used in such books in the lower-part. Sometimes these stems are larger, sometimes smaller, but they never designate any precise time. They are used, however, to divide syllables, whereby those notes which belong to one syllable are found on one side, and those which belong to the other on the other side. The same thing is done when the same word or words are involved, if it is necessary to join them when singing. You must commit to memory exactly all of these finesses together with those involving many other kinds of double rests, as will be shown below.

There are others who, when they notate music, use letters in place of notes, as for example: *f f f a c c d c a c c c c e d c c,* is found in older books as the melody of *Viderunt omnes* (M 1). Contemporary writers do not use letters, except for the ones at the beginning of the systemata (clefs). Instead, they use round and square shapes either with or without a stem, and they have cause to write down many such notes which rise or fall through an octave, fifth or fourth. They have rules for these things similar to those inherent in the eight ecclesiastical modes or tones. There is a different reasoning behind these rules, and they are arranged in a fashion similar to that of the afore-mentioned (ecclesiastical) modes, although there are other rules.

———— Coussemaker p. 350a18 to p. 350b35

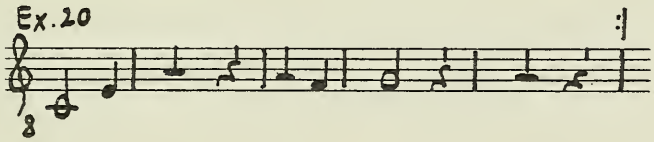
1) Confice the transcriptions of Nos. 2 and 3 in Y. Rokseth, *loco citato.*

A double rest is found wherever the single *brevis* or *longa* is doubled or tripled. The first *ordo* gives an example of all that will be said subsequently. You should know that *ordines* of rests can be added together just like the *ordines* listed above, etc. There is scarcely any difference between these different kinds of *ordines*, as will be shown below.

As far as the above-mentioned double rest is concerned, we do not mean that the *brevis* or *longa* is to be doubled, but rather that the successive rests are to be understood according to the *ordo* of the prevailing mode, or conceived of according to the sequence of note-values. It should even be noted that in the case of double rests, certain people measure the distance or the amount of unwritten surface between the two stems. Thus, two stems constitute the equivilence of three durational units, and three stems represent the equivilence of five durational units, according to the arrangement of *longae* and *breves* in any particular mode, as shown in the first *ordo* of the first mode, etc. In such cases, however, the stems are all equal in length, and if in the first mode, the music has a *longa, brevis, longa,* the rest will be a *brevis, longa, brevis*. Thus, the stems will all indicate *breves* rests, but the space in between them will indicate the *longa*. If you indicate a rest of *longa, brevis, longa* with three stems, all of these stems will be *longae,* whereas the spaces in between them will be *breves*. The *ordines* of the second mode can be understood in a similar manner with two or three rests, etc.

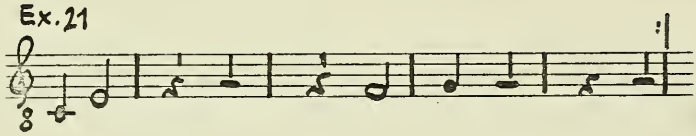
If, however, one has a *brevis, longa, brevis* in the second mode, then the double rest will have the durational value of a *longa, brevis, longa*. In this case, the stems will be formed as *longae,* and the spaces between the three rests will be short, etc. The following rule covers perfect rests: If the same mode is found both before and after the rest, the rest will be perfect. In this fashion, you will be able to measure the distances between the rests. Such a procedure is universally followed in the first, second and fifth modes; in the case of the second mode, however, this is utilised only if there is a perfect mode both before and after the rests, etc.

Again, we can talk about a *longa* and a *brevis* followed by a triple rest, or two equal (*longa*) rests, which, however, are not used, because a mode is employed after them which is different from that before. The rests are drawn as *longa, brevis* and *longa* stems. Then, there will be notes for the *brevis* and *longa,* followed by three stems for the *brevis, longa* and *brevis* rests, which are in just the opposite sequence to that which was used before.



Coussemaker p. 350b36 to p. 351a36

The whole succession will be reversed if you are considering the second mode, substituting the sequence *brevis longa* (in place of *longa brevis*) in the discussion of the notation above.



In a similar manner, we may derive the appropriate sequences for the third and fourth perfect and imperfect modes, as well as for the fifth and sixth modes, as shown and fashioned above.

Chapter Four

Concerning Harmonic Consonances

In plain chant, thirteen proportions are used. The first of these proportions is called an unison. The twelve following are named: major second, minor second, major third, minor third, augmented fourth which is not used very much, the perfect fourth, the perfect fifth, the major sixth, the minor sixth, the major seventh and the octave. There are proportions also which are combined with the octave, such as the major second with octave, the minor second with octave, etc., until one reaches the double octave; beyond these, is the major second with a fifteenth, the minor second with a fifteenth etc. up to the perfect fifth and fifteenth; and there are even more notes than these, such as those used on the organ, where the notes will extend to the triple octave.

Formerly, other writers named these proportions in such a manner that one proportion was added to another (*id est* by multiplication), as is found in a certain musical rule. They struck out four of these, however, and they said about these: There are thrice three kinds of proportions which every song contains, namely: unison, minor second, major second, minor third, major third, perfect fourth, perfect fifth, major sixth, octave; the augmented fourth, the minor sixth, and the minor and major sevenths are not used, as shall be exemplified in notation. Thus, there are four proportions which are not used, etc.

Descriptions and definitions of these proportions can be understood by the use of the fractional representation of proportionate numbers. Unity is the distinguishing factor of all things, according to Iordanus the younger. Number is the total collection of unities. Some numbers are even, others odd. Some numbers are absolutes, others are relative. Some numbers are perfect, others diminished and still others excessive. All relative numbers may be arranged according to three different proportions, others in fewer ways. There are three kinds of proportions. The first kind, which is called the science of measurement, has the (arithmetic)

Coussemaker p. 351a37 to p. 352a12

series: one, two, three, four, five, six, seven, eight, nine etc. The differences between each of the terms of this series is the same, as shown fully in the books of the science of mathematics by Boëtius: *In dandis accipiendisque,* etc. The second kind involves geometric proportions, such as the series: two, four, eight, sixteen, thirty two etc., where there are unequal differences between the terms of the series. This is shown fully in Euclid's geometry; the beginning of this work is most trying, but the main part isn't. There is another proportion, which is called the harmonic proportion, and this is partly the same as the arithmetic mean, and partly the same as the geometric, as shown fully in Boëtius's: *Omni quidem perceptio.*

The relative proportions may be considered in another way. Some of them are equal, such as one to one, two to two, three to three, and these are called equalities by musical theorists, and are named unisons, whether this be heard in string music, organ pipes or cymbals. The other kind of proportion involves unequal relationships. This inequality is expressed by five different kinds of inequality which are called: 1. *multiplex,* 2. *superparticularis,* 3. *superpartiens,* 4. *multiplex superparticularis* and 5. *multiplex superpartiens.*

We are dealing with the *multiplex* variety when a larger number contains an exact multiple of a smaller number; to designate this species, we use terms such as: double, triple, quadruple etc. Double is realised when the larger number contains two of the smaller; triple, when it contains three; quadruple, when it contains four, etc. Double corresponds therefore to the relationship two to one, or four to two. This is identical to the octave. Two doubles, that is quadruple, constitute the double octave. In a similar fashion, we can derive the triple octave as used in pipe organs.

We are dealing with the *superparticularis* variety when the larger number contains both the entire smaller number and a mathematical part of it, etc. The various terms for these are *sesquialtera* (3/2), *sesquitertia* (4/3), *sesquiquarta* (5/4), etc. also *sesquioctava* (9/8). *Sesquialtera* is realised when the larger number contains the smaller and half again, and this is called *sesquialtera* or *emiolius*. *Sesquitertia* is realised when the larger number contains the smaller and an additional third, and is called *epitritus*; *sesquiquarta* contains the entire smaller number plus a fourth; *sesquioctava* the entire smaller number plus an eighth and is called *epogdous*. Accordingly, the *sesquialtera* proportion corresponds to the perfect fifth, and its inversion (*id est* 2/3) produces the perfect fourth. *Sesquioctava* (*id est* the whole tone) is the constitutive element for all of those proportions mentioned before, and for others, like the smaller and larger half tones, if it is possible to use them. The octave consists of a fifth and a fourth, in the proportion of 4 : 3 : 2; the four to two represents the double proportion. Thus, the fifth is 3 : 2 or the *sesquialtera* proportion, and the fourth is *sesquitertia* or 4 : 3. Consequently, the octave consists of a fifth and a fourth. All other musical or harmonic consonances are basically derived from these three consonances.

Coussemaker p. 352a13 to p. 352b28

According to others, the fourth is the first of the consonances. Thus, we find in ecclesiastical (*id est* non-musical) writings, that the fourth is the first consonance, the fifth the second, and the octave the third. This is one manner of handling the situation, if you evaluate them according to the increasing size of intervals. Thus, the fourth would be the first symphony (= consonance), the fifth the second, and the octave the third. If, however, you consider proportions of smaller number (simpler relationships, to determine the succession of consonances), then the octave is the greatest of the melodies (= consonances) and the mother of all consonances, after the basic interval, the unison, since all inequality originates in equality. The proportion of the octave may, of course, be reduced to that of the unison, as will be shown below fully. The fifth is the second consonance, and is the next melody (= consonance) after the octave; the fourth is then the third one, etc. The difference, which is also called the interval, between the octave and the fifth is the fourth. The difference or interval between the fifth and the fourth is the major second; consequently, a major second and a perfect fourth comprise a fifth.

We are dealing with the *superpartiens* variety when the larger number contains the smaller number and several parts of it. The various kinds of these include *superbipartiens, supertripartiens, superquadripartiens* etc. *Superbipartiens* is realised when the larger number contains the smaller number and two parts of it; *supertripartiens,* the smaller number and three parts; *superquadripartiens* the smaller number and four parts etc., in different manners.

The *multiplex superparticularis* variety contains multiples plus one part. The various kinds of these include double *sesquialtera,* double *sesquitertia* etc. Another kind includes triple *sesquialtera,* triple *sesquitertia* etc. In this manner, you can combine all kinds of multiples with all other kinds of *superparticulares,* as may be necessary.

The *multiplex superpartiens* contains all multiples and several parts. The various kinds of these include: double *superbipartiens,* double *supertripartiens* etc. Another kind includes triple *superbipartiens,* triple *supertripartiens* etc. You can combine just as many multiples with all kinds of *superpartientes,* as shown above in the discussion of multiple *superparticulares.*

The difference or the interval between a major second and a perfect fourth or their inversion, is the minor third, which is the *superquinquepartiens* of twenty seven, or 32 : 27. Consequently, the difference between the minor third and the perfect fourth is the major second, because the perfect fourth is composed of these two intervals. The difference between the major second and the minor third is the smaller minor second, which is the *supertredecempartiens* of two hundred forty three, or 256 : 243. If you add a perfect fifth (*id est,* multiply 256 : 243 by 3/2), you will have a minor sixth (128 : 81). The difference, thus, between the minor sixth and the perfect fifth is a minor second. The difference between the minor second and the perfect fourth, or their inversion, is the major third. Thus, the perfect fourth is composed of the major third and the minor second, or their inversion. Thus, the perfect fourth is composed of both of them. The difference between a major second and a major third is a major second; thus, the major third is composed of two major seconds, which is the *superseptemdecempartiens* of sixty four, or 81 : 64.

Coussemaker p. 352b29 to p. 353b6

The difference between the smaller minor second and the major second is the larger minor second ($3^7/2^{11}$ or 2187/2048 compared with the smaller minor second, or $2^8/3^5$ or 256/243), but that is not used. The perfect fifth may have a major third added to it, and it is then called a *ditonus cum diapente*; the difference between the major seventh and the perfect fifth will be a major third. The perfect fifth may have a minor third added to it, and then it is called a *semiditonus cum diapente*; the difference between the minor seventh and the perfect fifth will be a minor third. In a similar fashion, all proportions larger than the unison may be added to the single, double and triple octave, and these are called *semitonium cum diapason, tonus cum diapason* etc. until you reach the largest possible intervals.

The double octave and other consonances can be called such things as the double *sesquitertia,* which is the octave and a fourth (the eleventh), or the double *sesquialtera,* where the larger number is three times the smaller, and this is the octave and a fifth (the twelfth). These consonances differ from each other in most notable ways. You can always compound intervals with double and triple octaves, if it becomes necessary.

The word *diapason* is derived from *dia,* that is *de* in Latin, and *pan* that is *totus* and *sonus,* as if it contained all sound in itself; this is, that it includes all the harmonic proportions in itself, and it also has the same letter on the monochord when one proceeds through eight letters. The word *diapente* is derived from *dia* that is *de* in Latin, and *pente,* that is *quinque,* as when you proceed through five letters or notes. A perfect fifth may be conjunct or disjunct (*id est* CDEFG would be conjunct, FGABC woul be disjunct, not being contained completely in one hexachord). The word *diatessaron* is derived from *dia,* that is *de* in Latin, and *tetra,* that is *quatuor,* as when you proceed through four letters or notes. A perfect fourth may be conjunct or disjunct. The *ditonus* (major third) is so called, because it contains two tones. The *tritonus* (augmented fourth) is so called, because it is formed as if it contained three whole tones, but it is not used except in rare instances by organists. The minor third is called a *semiditonus,* because it is like an imperfect *ditonus.* The interval which is called the *semitonium maius* (larger minor second) is not used, except on rare occasions. The minor second is an imperfect major second, because it is not exactly half of a whole tone, since if any proportion is removed from any *superparticularis* function, that which remains will not be half of it. *Tonus* is named after *tonando,* that is sounding.

If you multiply two times two, you will get four; and if you multiply one times one, you will get one. Thus, the proportion of four to one is the result of twice two, and in this manner, the proportion of two to one is added to two to one. If you multiply two times one, you will get two, which is the geometric mean between four and one.

Observe the series of terms: 4 : 2 : 1; two to one is a double proportion, and four to two is another double proportion, and this is the way proportions are added to proportions. In the same manner, you can add similar and dissimilar proportions. Again, if by chance, you should be subtracting proportions, take the first term, such as four to one; then, put a two under the four and a one under the one (*id est,* invert the fraction and multiply). Divide the four by two, and the result will be two, and divide the one by one, and the result will be one. These two numbers represent the result of this operation, and they represent

the difference between the double (2/1) and the quadruple (4/1) proportions, which latter is another double proportion; thus, the result will be 2/1. If you multiply the reciprocal, you will get the difference between the relationship of the quadruple (4/1) and the double (2/1), and you will get the other double proportion. Thus, if one method of doing this is not adequate, the other will be. It should be noted, that whenever it is necessary to apply this rule, if the terms of this proportion are multiplied by the same number (*id est,* in both the numerator and the denominator) that the proportion will remain the same. According to these rules, one can produce all of the afore-mentioned proportions from the double proportion or from equality etc. More of this will be shown in the following.

Part 2

Concerning Polyphonic Compositions

It is known that the term *organum* is quite ambiguous; often, we speak of *organum purum,* such as *Iudea et Ierusalem* (O 1) for two voices, or *Descendit de celis* (O 2) or *Gaude Maria* (O 5) etc. Again, we use the word *organum* to designate the organ as an instrument, as the poet says: *in cordis et organis* (Psalm 150). Again, it is used in another fashion to designate three-voiced polyphonic compositions, such as *Posui adiutorium* (M 51). *Organum simplex* often designates three-voiced polyphonic compositions, like the *conductus simplices.* The term is often used in a different fashion by ordinary clerics, who apply it to two, three and four-voiced *conductus,* but this is quite improper. There is also a kind of *organum,* which was so designated by our forebearers, and this involves the consonance of one sound with another. Of all of them, this one consisted of connected *conductus simplices* with any kind of mensuration, and any kind of melody. To explain this universal method, we shall begin with two notes. The first has the melody or tenor on low *C C*; the *organum* begins on high *c* against the afore-mentioned low *C,* and may end on the same *c* forming an octave with the afore-mentioned *C*; thus, there will be high *c c* against low *C C*; or it could end on low *G* a fifth above; thus, there would be *c G*; or it could end on *F,* yielding *c F*; again, it could move by a major third to *e,* as some people like, although this is improper, as *c e*; or it could move to *e*b, which is marked by a flat, as *c e*b, by a minor third. Again, it could end with the same sound in unison as *C c.* The rule, that the best composers of polyphonic song follow for every natural harmonic progression, is to begin with an unison, octave, fifth, fourth or either the major or minor third; properly speaking, however, a composition does not end with a major or minor third, although there are some persons who use these improper sounds at the end. Every composition should end with an octave, fifth, fourth or unison. It should be noted, however, that two-voiced compositions rarely end with a fourth, whereas three and four-voiced compositions use this interval in conjunction with other consonances.

Again, if we take the example of *C C* in the melody or tenor, the *organum* may begin with *G* and end with *c* an octave above, or with *G* a fifth, or with the fourth *F,* or with the major third *E,* or the minor third *E*b, or with a *C* unison. These may be collected together as: *G c*; *G G*; *G F*; *G E*; *G E*b; and *G C*; similarly (if we began with the fourth),

we have *F c*; *F G*; *F F*; *F E*; (*F E*b); *F C*. In a similar manner, if we began with the major third *E*, we would have: *E c*; *E G*; *E F*; *E E*; and *E C*. Again, if we began with the minor third *E*b, we would have and be able to sing: *E*b *c*; *E*b *G*; *E*b *F*; (*E*b *E*b); and *E*b *C*. Again, we could begin with an unison and end with an octave, as *C c*.

Again, we could end with a fifth, a fourth, a major or minor third or an unison in the following manner: *c G*; *c F*; *c E*; *c E*b; and *c C*. All of this can be done with any measurement that you might wish, although it is better if this doesn't go too quickly, and the consonances will be better, if they proceed slowly.

Just as we have considered the progressions in relation to *C C*, so we can now use the progression *C D*. If *C D* is in the tenor, the *organum* can begin on the octave and end on the fifth, fourth, minor or major third, or unison, thus: *c* high *d*; *c A*; *c G*; *c F*; (*c F*♯); *c D*, Again, it can begin on the fifth and end in the same way, namely: *G d*; *G* A; *G G*; *G F*; (*G F*♯); *G D*. Again, it can begin with a fourth and end in the same fashion, such as: *F d*; *F A*; *F G*; *F F*; and *F D*. Again, it can begin with a minor or major third and end in the same way: *E d*; *E A*; *E G*; *E F*; (*E F*♯); *E D* (or using *E*b). Again, it can begin on the same sound, as: *C d*; *C A*; *C G*; *C F*; *C D*.

If the lower voice has *C E*, we could begin with an octave and end with an octave, fifth, fourth, major or minor third, or with the same pitch, as *c e*; *c* B; *c A*; *c G*; *c E*. Again, we could begin with the fifth *G* and end with *e*; *B*; *A*; *G*; or *E*. Again, we could begin with the fourth and form the following to the tenor *C E*: *F e*; *F B*; *F A*; *F G*; *F E*; or *F C*. Again, to *C E*, we could have *E e*; *E B*; *E A*; *E G*; *E E*; or *E C*.

To the notes *C F* we could have *c f*; *c c*; *c B*b; *c A*; *c A*b; *c F*; *F c*. You proceed in the same fashion for all groups of two higher notes.

Again, we can have lower notes also. Thus, if we have high *c c*, we can begin at the lower octave, and end in the same way as above, thus: *C c*; *C A*; *C G*; *C F*; or *C C*.

In the same fashion, we can descend from the unison: *c c*; *c A*; *c G*; *c F*; or *c C*.

We can also descend from *A*, that is from the lower minor third. Accordingly with the upper-part *c c*, we can begin on the lower minor third, yielding: *A c*; *A A*; *A G*; *A F*; or *A C*.

Again, we could begin below *c c* with: *G c*; *G A*; *G G*; *G F*; or *G C*. Thus, we have given all of the individual examples both above and below.

We shall proceed in the following manner: Above, we spoke about the consonances formed between two notes according to the six harmonic consonances. It is now our intention to continue with three notes which begin in this manner: *C C C* in the melody or tenor, and beginning with the octave above. The first two notes will not be different for the present. The final note can be like the first two as *c c c*. The last note may also form a fifth, fourth, minor third, major third, as in the following: *c c G*; *c c F*; *c c E*; or with a flat *c c E*b; or *c c C*. The second note may also be different from the afore-mentioned notes, as *c G c*; *c G G*; *c G F*; *c G E*; or *c G C*. Again, the second note may differ as follows: *c F c*; *c F G*; *c F F*; *c F E*; or *c F G*. Another position for the second note is: *c E G*; *c E F*; *c E E*; or *c E C*. Another form for the second note is: *c c C*; *c c G*; *c G F*; *c C E*; *c C C*.

Coussemaker p. 355a11 to p. 356a12

That which we have added above a voice, may also be placed below; if the melody or tenor has high *c c c*, the other voice may begin with low *C C C*. The last of these notes can be: *C C F*; *C C G*; *C C A*; or *C C c*. The second note can be different, and the third can be changed in this manner: *C F C*; *C F F*; *C F G*; *C F A*; or *C F c*. Similarly: *C G C*; *C G F*; *C G G*; *C G A*; *C G e*. And again: *C A C*; *C A F*; *C A G*; *C A A*; or *C A c*. Finally, *C c C*; *C c F*; *C c G*; *C c A*; or *C c c*. If any particular finess is desired, you can continue each succession of three notes, preserving the above-mentioned arrangement to the extent that they are contained in the consonances of the monochord.

Part 3

Concerning Discant

In the following, we shall concern ourselves with discant. Discant involves the consonance of otherwise different melodies; it will be necessary to have at least two voices which consonate with each other, for what I shall have to say. We shall consider the relative nature of these voices, which may be fashioned in many different ways both in the upper-part as well as in the tenor.

The melody of the tenor is the first song to be composed or made. The discant is the second song which is composed or fashioned, and it forms consonances with the tenor. These consonances are subject to the considerations listed below. In the first mode, they observe this pattern: The first note of the discant must form a consonance with the first note of the tenor, and this will be an octave, fifth, fourth, minor third, major third or unison. In the first mode, the first note is a *longa* in both the discant and the tenor, because they are coëqual. We are little concerned with the *brevis* which follows, since it may be used indiscriminately for one durational unit against the tenor. The third note is a *longa* and is equal to the third *longa* while forming a consonance as stated above, and the fourth *brevis* is coïncidental with the fourth *brevis*. This is the way you proceed in the first mode, as far as you may desire, from which the following rule follows: All odd numbers of notes in the first mode are *longae* and must form consonances with the tenor. The remainder of the notes, the even-numbered ones, may be composed without regard to consonance.

It should be noted that you have to keep three things in mind: 1. the sound or proportion of the consonances, 2. the durational values, and 3. the total number of durational units contained. Among others, there is one universal rule, which is usually adhered to, and that is: If the melody or tenor repeats any note or maintains an unison, the discant may also retain an unison, descend or ascend to another consonance, whichever is best. This is stated in regard to two notes, as if there were no others, to demonstrate that all final notes must form consonances. Again, you may have a series of notes, and one set will ascend and descend, or descend and ascend etc.

Coussemaker p. 356a13 to p. 356b35

The discant must have relative oblique motion in the voice-parts, if it is to be considered natural. The difference between singers of discant and the vagrant singers, who are also discantores, is, that if the tenor rises for the latter group, they sing the upper-part higher also, and if it falls, they also sing the upper-voice lower in pitch. The true discantores, however, do not do this, but follow rather the method outlined above.

It should be noted that there are three kinds of discantores; one kind consists of charletans and novices; and these do what I have just said except very rarely, since without recognising what they are doing, they will on occasion descend or ascend to a consonance other than the one they have been using. The second group uses a different method in following the principle stated above (*id est,* oblique motion in the various voices); here, we find the real discantores. There are still others who follow the method employed by the first group some of the time, and that of the others the rest of the time, as shall be shown below fully.

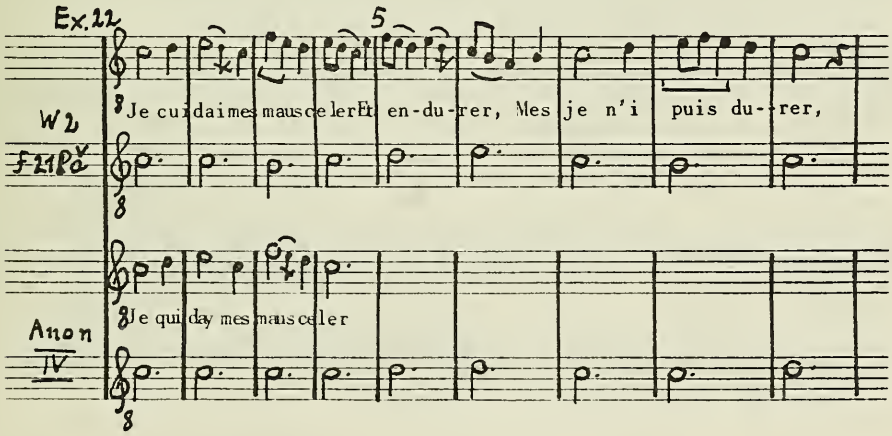
It should be noted that the real discantores have three ways of composing a melody. The first method makes use of the neighboring consonances, that is the lower fourth and fifth. The other method employs the more remote intervals, which include the lower octave along with the others. The third method utilises the most distant intervals, such as the lower 12th and 15th, or even larger ones.

Let us begin with the closest intervals, those which do not exceed a fifth from the tenor line, whether they fall between the unison and the major third inclusive, or whether they are formed of more distant ones: those which are smaller than the fifth, but larger than the major third, or both.

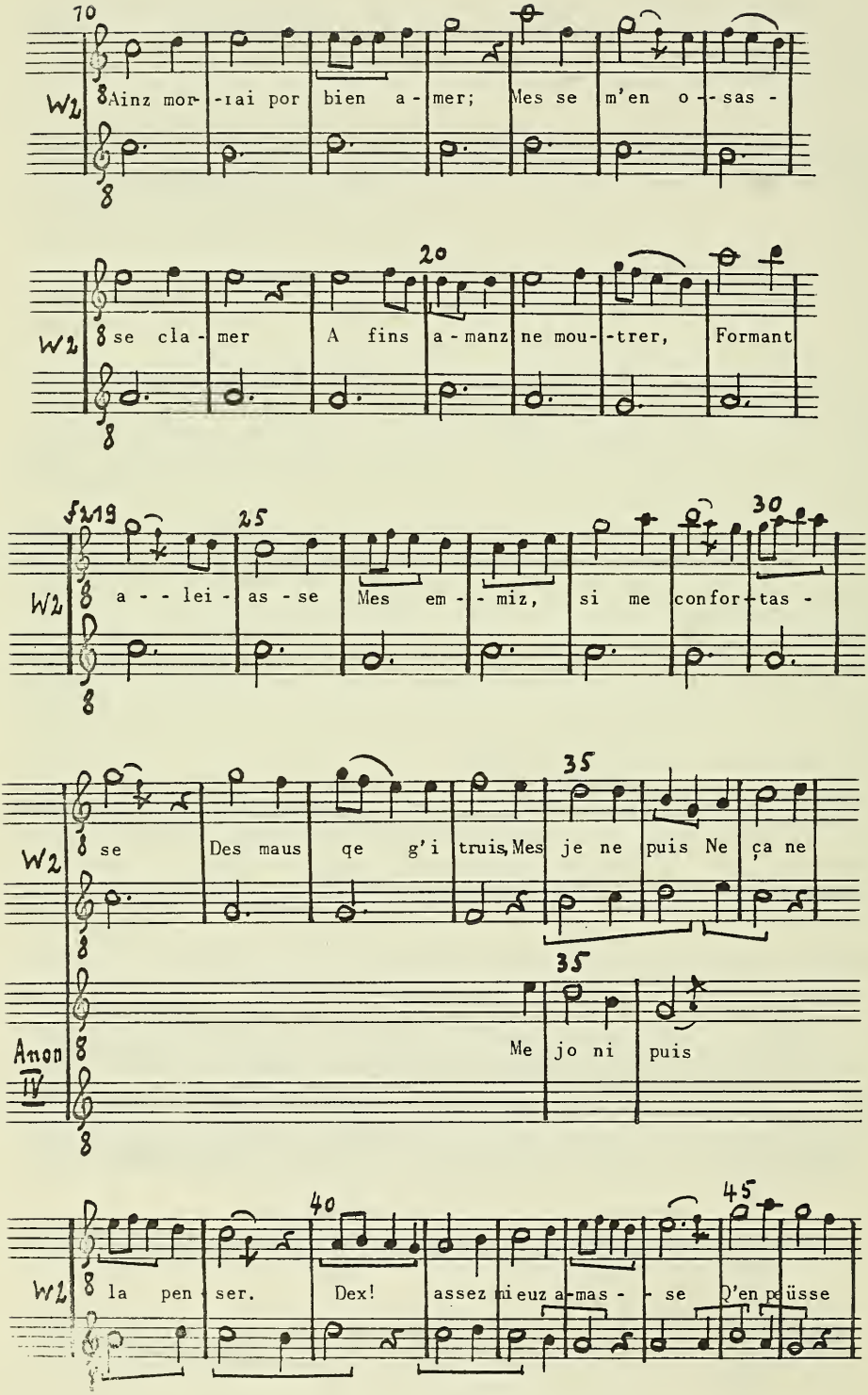
First of all, let us write a clausula or period in the usual fashion, that is in accordance with the paragraph above. The tenor may be notated in the following way, using no rests at first: *c c c c d d c c d c*; all of these notes are *longae* of three durational units, since they equal a *longa* and *brevis* of the first mode.

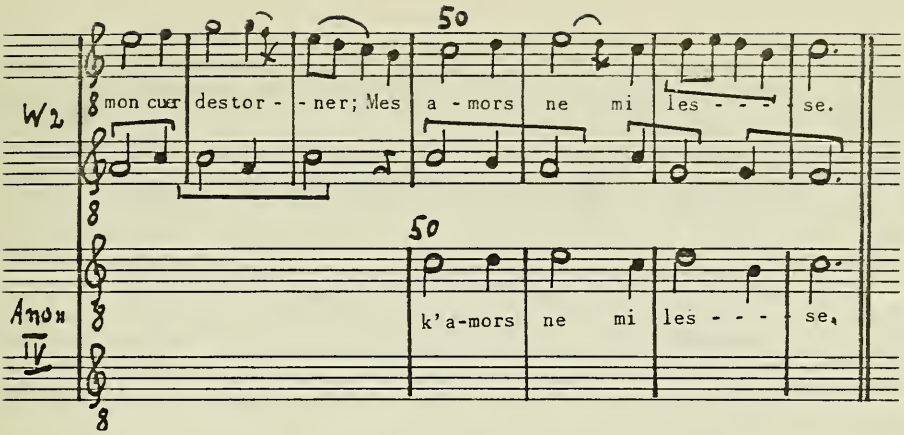
Again, form the discantus according to the first mode, namely: *c, d, e, c, f* with a descending *plica, d, c, e, d, B, G* with an ascending *plica,* the durational value of this note being a *longa* and a *brevis, c, d, e, c, d, B, c*. The text of these notes is in French: *Jo quiday mes maus celer; me jo ni puis kamors ne mi lesse,* etc. The discant is as mentioned above.

The Motet Je cuiday mes maus celer according to Wolfenbüttel, *Helmstad. 1099* f. 218a[v]



Coussemaker p. 356b36 to p. 357a36


70
W2
Ainz mor- -rai por bien a- mer; Mes se m'en o- -sas -
20
se cla- mer A fins a- manz ne mou- -trer, Formant
25
a- - lei- as- se Mes em- - miz, si me confor- tas -
30
35
se Des maus qe g'i truis, Mes je ne puis Ne ça ne
Anon
IV
Me jo ni puis
40
45
la pen ser. Dex! assez mieuz a- mas- - se D'en peüsse



It should be noted that the discant has to consider many things in its relationship to the tenor: there may be a *modus rectus* (*id est*, first, second or sixth) in the discant as well as in the tenor, that is when the mode is formed in both cases with the lengths of proper *longae* and proper *breves*, and then it is a right mode.

There is another kind of mode, which has values in excess of the proper measurement of proper *longae* and of proper *breves*, and this is called, by contrast, a mode beyond measure; or this might also be called an oblique mode transsumptively, and the third mode is one of the oblique modes.

There are many combinations of proper modes; thus, the first can be used with or contrasted with the first mode, or the second against the second, or the sixth against the sixth; thus, these three modes can be used with themselves.

In another way, different modes can be used against others; thus, the first mode can be contrasted with the second, the first against the sixth, and the second against the sixth, and there are also other combinations. This is accomplished by employing the second mode in the discant and the first mode in the tenor, or the sixth mode in the discant and the second mode in the tenor.

Thus, the first mode against the first constitutes group *A*; the second against the second *B*; the sixth against the sixth *C*; the first against the second *D*; the first against the sixth *E*; the second against the sixth *F*; the sixth against the first *G*; the second against the first *H*. This is said to be the contrast of proper mode against proper mode, because the first, second and sixth modes proceed with proper *longae* and *breves*, as stated above.

There are certain other modes which are beyond proper measurement, since they have elements which differ from those used in the other modes. These include the third, fourth and fifth modes. They are found in three ways: either combined with other modes or themselves. Thus, we find the third mode against the third, fourth against fourth, fifth against fifth. Contrasting modes include the third against the fourth, the third against the fifth, the fourth against the third, the fourth against the fifth, the fifth against the third, and the fifth against the fourth.

Finally, there are many ways in which a proper mode may be contrasted with a mode, which is beyond measure or oblique; thus, the first mode may be used against the third, the first against the fourth, the first against the fifth; or again, the second against the third, fourth or fifth; the sixth against the third, fourth or fifth.

Coussemaker p. 357a37 to p. 358a4

To complete the possibilities, put the tenor into the place of the discant, just as in the case of all those which are beyond measure; and then put other modes into the place of the tenor, and you will have turned upside down or inverted what has just been said. Thus, you have the third mode over the first, second or sixth; or the fourth mode over the first, second or sixth; or the fifth mode over the first, second or sixth.

Chapter Five

Concerning Compositions for Three and Four Voices and the Copula

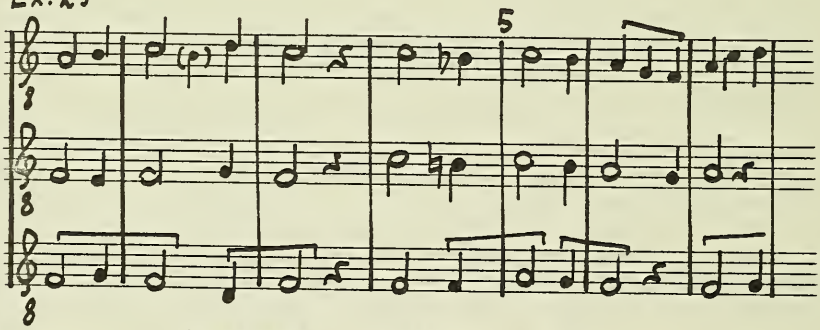
In the following, we shall concern ourselves with compositions for three and four voices and with the copula.

Concerning compositions for three voices: Let us consider a discant of the first mode, which has this mode in both the discant voice as well as in the tenor; the tenor will be: *F G F D F* with a further *brevis* rest, *F F A G F* with a *brevis* rest; in this fashion, you can recognise the second *ordo* of the first mode. This is named *omnes*, because it is taken from *Viderunt omnes* (M 1). This may be stated twice, thrice, or as many times as the tenor needs it. The discant, or the second melody, begins on the same pitch (*sic!*), having the range of a fifth above, thus: *F, E, F, G, F* with a *brevis* rest with the above-mentioned *ordo, c, B, c, B*b *(sic!), A, G, A* with a *brevis* rest, and then *c, B*b, *c, A, A, G, c, c, A, G, A, G brevis* etc.

Then, we add a third melody to the two melodic consonances, and it is called a *triplum* to distinguish it from the second voice, which is the *duplum*, and the tenor which is the first one.

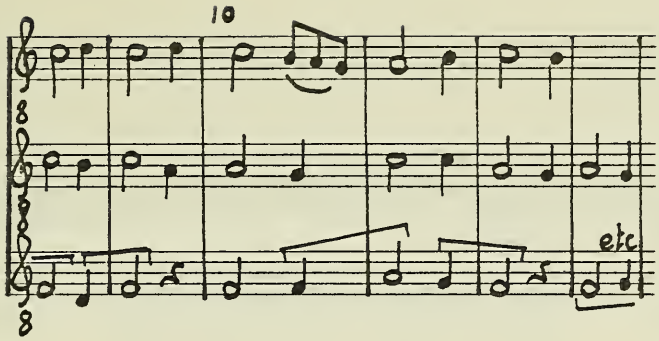
In the *triplum* then, which begins below in the range of the lower octave, we have: *A, B, c, B*b, *d, c* with a *brevis* rest in the same fashion as the other voices, *c, B, c, B*b, *A, G, F* three for a *longa, A, c, d, c, d, c, d, c, B*b, *A, G* three for a *brevis, A B*b, *C, B*b *brevis* [1].

Ex. 23



Coussemaker p. 358a5 to p. 358b3

1) The sequence of notes of the *triplum* is given twice, at the bottom of Coussemaker pp. 358a and 359a. In the first rendition, measure 2 has *c B d*, the second *c d*; the first version moreover specifies in measure 4 *B rotundum* in the *triplum* (*B*b) and B natural in the *duplum*. Note that the tenor is transposed down a fifth from its normal position; this, otherwise, occurs only in motets (confice Cserba p. 253). This motet is apparently not known elsewhere, although Montpellier VII, 288 begins with the same sequence of notes in the second mode. Thus, we can add an additional motet to the known repertoire.



It is to be noted that the uneven-numbered notes of the first mode in the *duplum* form consonances with the odd-numbered notes in the first voice or tenor in the first mode. These are the perfect consonances of the unison and the octave, the middle consonances of the fourth and fifth, and the imperfect consonances of the minor and major thirds. Other composers, however, count the major and minor thirds among the other types of consonances. Thus, there are excellent composers of polyphonic music in certain places, such as England, in that part which is called the *Westcountry,* who consider these to be the best possible consonances, since they use them so much.

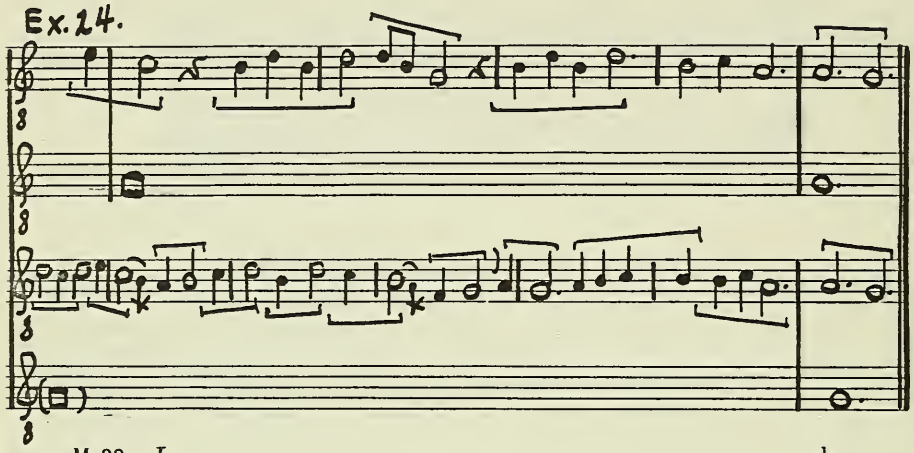
There are certain good composers and writers of polyphonic song, who as a rule use dischords in place of consonances, even in consideration of what we have just said. To attain a certain refinement, we can, for example, place a whole tone of squares, notes or sounds before a perfection (*id est,* unison). This will also form a consonance, whether this is the next-to-the-last note of the composition, or is found elsewhere, since this is a proper rule.

Every next-to-the-last note before the rest, which is the end of a section, is a *longa.* If the next-to-the-last note is a whole tone above the tenor, as in *organum purum,* it will still form a good consonance, although the major second by itself is not a consonance. This method is quite often used by composers of *organum purum,* and by the Lumbard composers of polyphonic song. The difference, however, is that the composers of polyphonic song add the final note in their books, that is the one right after the next-to-the-last note, and this note either forms an unison or an octave with the tenor. Certain Lumbards, however, sometimes notate the final note, and sometimes they don't, and they draw back down under the sound of the final consonance and then return to the same pitch; this does not correspond with the philosophy of consonances.

An example may be given of the consonance of the major second in *organum purum,* as mentioned above. You have *G G* for a *longa florificata,* then in the *organum purum* you have *e c,* with the proper rest, *B*b *d B*b *d,* ligated, then *d B*b *G* with a rest, *B*b *d B*b *d B B c A A* touching disjunctly

Coussemaker p. 358b4 to p. 359a2

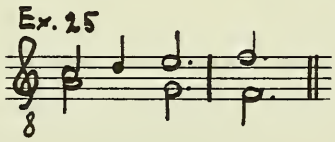
final *G*. The tenor remains continually on *G*, and has *G* at the end in a stabilising manner, as in the bass part of *organum* 1).



M 38 *Iu* — da.
M 49 o — mnes.

This example and similar ones are or were to be found in many places in *organum purum,* and shall be shown to the fullest possible extent in the seventh chapter below.

An example involving a discant would have the tenor *A, G, F* presented two, three or more times, and the *duplum* of the discant would go *c, d, e, f* in opposite motion, as has been stated etc.

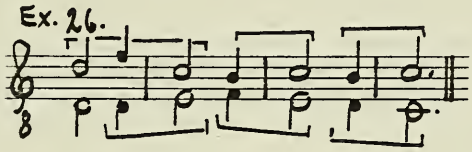


Thus, we have shown an example of that vile and loathesome dischord which is the sixth, and which is mostly to be avoided. If, however, it is the next-to-the-last note before a perfect consonance, which is the octave, it is the best consonance in this arrangement of notes or sounds, as shown above. In this fashion, you will also understand the other dischords, which shall be presented below fully, and in this light also, you will consider the next-to-the-last note.

———— **Coussemaker p. 359a3 to p. 359a21**

1) This passage could conceivably be a corruption of a two-voiced *organum purum* from a composition contained in the *Magnus liber*. The identical endings of M 38 and M 49 (confice Waite pp. 202 and 231) bear some similarities to the notes given here and may be compared, since they raise a problem similar to that of the theorist.

There are certain people who heap discords on discords before a perfect consonance, such as before the octave, and for this reason, they are at the same time both greatly praised and derided. This may be seen by those who write accordingly, namely: *d, f, c, B natural, c, B*b, *c* in the upper-voice, and *D, D, E, F, E, D, C* in the lower. Thus, by these means, you will be able to recognise all discords, similar to those presented, as well as others that will be shown below.



If we have assumed a two-voiced setting until now, *scilicet duplum* and tenor, that is the interrelationship of two voices, we now may add a third voice, which might have: *A, B*b, *c, d, c* with a *brevis* rest similar to the one stated above, then *c, B*b, *c, B*b, *A, G, F,* three notes for a *longa, A, c, d, c, d, c, d, c, B*b, *A, G* three notes for a *brevis, A, B, c, B*. This may be continued as far as one wishes and will form consonances with what has been stated before [1].

The rules for the *triplum* are as follows: In the first mode, all uneven-numbered notes must form consonances with all odd-numbered notes of the *duplum*. Thus, the first note will form a consonance with the first note, the third with the third, the fifth with the fifth, and so on for all individual notes.

Then, we also state that every uneven-numbered note must form a consonance with every odd-numbered note of the tenor; the first with the first, the third with the third, the fifth with the fifth, and so on for all individual notes.

Thus, if we collect items, we find that the *duplum* will form consonances with the tenor on all uneven-numbered notes, the *triplum* similarly with the tenor, and the *triplum* with the *duplum*; thus, any one note will form a consonance with any other note, and similarly this one with the other two, because all three notes must consonate and form consonances with each other.

All even-numbered notes in the *triplum* can be composed without regard to this; they may form consonances or not. Good performers, however, also consider the even-numbered notes and concern themselves with these, and consider their relationship to the *duplum* and to the tenor. Thus, if the *duplum* goes up in pitch, the *triplum* will fall, and vice versa. This is followed for one, two, three or more steps.

In a similar fashion, they allow the *triplum* to move with the tenor for one, two, three or more steps. It is, however, regarded as reprehensible, if two voices move upwards excessively in parallel motion with one another, no matter which voices are involved, as shall be shown below.

In the same manner a *quadruplum* can be added to the afore-mentioned. If it is also conceived in the first mode, every odd-numbered note must form a consonance with the same uneven-numbered note in the *triplum, duplum* and tenor. If it now moves upwards in parallel motion with one of

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Coussemaker p. 359a22 to p. 359b35

1) Confice footnote 1, page 62.

the other voice-parts, it can be fashioned so that it will go well for two or three notes, as stated above in regard to the other voices. It may, however, move in the opposite direction, proceeding obliquely now to the *triplum,* now to the *duplum,* now to the tenor, or it may move along in unison with one of them. It is understood that the other voices may move in the same fashion, provided they don't do it excessively.

It should be noted that the *quadruplum* may occasionally form a discord with the other voices, which is not possible between the *triplum* and the voices presented below it. Thus, the *quadruplum* might form a major or minor third with the tenor, or *duplum,* and the other three might form consonances of an octave, fifth or fourth. Thus, it will be necessary to have a discordant sixth, if a major or minor third is formed above the tenor, and this is quite astonishing. Such things are possible in ways which are mutually compatible without forming discords. The continuation of this will be presented below. Thus, the fifth chapter ends.

Chapter Six

Concerning the Collections and Different Kinds of Discants

Now we shall go over to the final task of this kind. We know that there are many diversities and many different varieties of collections, as we have said before, which contain these compositions. One specific collection contains *quadrupla,* such as the *Viderunt* (M 1) and the *Sederunt* (M 3), which Perotinus the Great composed, and which contain much beauty and many ornaments. For the most part, this art has been continued to be used in its entirity, together with other similar compositions etc.

There is another collection which contains great *tripla,* such as the *Alleluia* V *Dies sanctificatus* (M 2), in which ornaments and beauties are found abundantly. If anyone performs the Divine Service in this manner, (*id est,* with the intent of using polyphonic compositions), he will have the best collection of this kind in these compositions. We shall discuss this collection below in the present chapter of this treatise.

There is a third collection of *conductus* for two voices, which have *caudae,* such as the *Ave Maria* (*gratia plena*), which was formerly for two voices, and the *Pater noster commiserans,* and the *Hac in die rege nato* [1]. Similar names of many other *conductus* are also contained in this collection.

There is a further collection of *conductus* for four, three and two voices without *caudae,* which is quite often used by lesser singers and others like them.

———— Coussemaker p. 359b35 to p. 360b4

1) It would be most enlightening to discover which version of the *Magnus Liber* is being referred to by our writer. These two *conductus* are in sequence in both Wolfenbüttel, *Herzog August Bibliothek, Helmstedt 628* (*W1*) and Florence, *Biblioteca Mediceo-Laurenziana, pluteo 29,1,* where the first strophe is a 3, the second, however, a 2. Since in the next paragraph, reference is made to *Ave Maria,* and *Pater noster commiserans,* which are in sequence only in *W1,* it is probable that this writer is reflecting a repertoire closely related to that source available to him; this would also explain his neglect of motet fascicles in his enumeration of the contents of the *Magnus liber,* since *W1* has no motet fascicle. Confice Gröninger pp. 80, 86 and 90.

There is a sixth collection of *organa* for two voices, such as the *Iudea et Ierusalem* with V *Constantes* (O 1); this was never made into a three-voiced composition, just as if it were fashioned according to its own manner, which was held to be extraneous (*id est,* irregular in relationship) to the others. Because the *longae* are excessively long, and the *breves* excessively short, it may be seen that this contains a mode which is irregular when compared with the above-mentioned modes of this discant, which are regular in themselves. We shall explain this more fully in the seventh chapter.

We also find many other collections, which have different ways of arranging their songs or melodies, such as the laïc *conductus simplices.* There are also countless others, all sorts of which may be found in their books or collections.

For the present, we intend to consider the larger three-voiced compositions mentioned above. These have three different melodies which go together, and thus there are only small differences between and among them. In this fashion, the first, second and third voices are brought together, so that we may have the good, common distribution mentioned above, as well as others of this kind.

One type of diversification is found when each of the three voices has a different kind of measurement. This is realised in the same fashion as in the case of the discant, namely, in any two voices or in all three, as in the tenor, the *duplum* and the *triplum,* or as is found in *organum purum* or similar compositions.

Another kind of diversification is realised when the initial (mode) is not retained for the entire first section, except for two notes with the same or different pitches; the same also applies to half a section. In the *duplum* and in the *triplum,* you continue according to the discantile method, ending always with one of the consonances, as stated above.

The third kind of diversification is found when you have the same tenor, but you have an extraneous (*id est,* irregular) mode in the *duplum* and *triplum,* as when the first note is too long or too short. Thus, such a section will temporarily seem to occupy a middle position between discant and *organum.* It is then neither discant nor *organum,* but rejoins the first again at the end, as stated previously.

It should be noted that the first note of the tenor can and will continue to sound in places in which it agrees to a greater extent with the consonances sounded above it, and it will rest when it would form disagreeable dissonances etc. This results in the best solution.

A second sort of difference is found in *tripla,* and it is one of the three kinds of diversification mentioned above. This is found when one voice proceeds according to the discantile manner, as stated above, and this in the most delectable manner. Accordingly, the tempo may be slow, slower or slowest; fast, faster or fastest; medium, more medium or most medium. The tempo refers to the first state of mensuration, or the second, or the third, and it may be increased or decreased or made more average.

Coussemaker p. 360b5 to p. 361a24

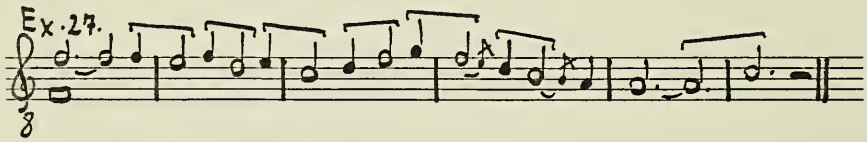
The third difference of *tripla* is found when you have a most pleasing or delightful note at the beginning, which is presented slowly, resulting in the fact that in the first mode, the second note will have to move quickly (*id est* ♩♪♪). Thus, this will not quite be the same as any of the discantile modes, but will be different and extraneous to them, as stated above. All of this is found in the *Alleluia* V *Posui adiutorium* (M 51), the great *triplum,* and in many other compositions.

It should be noted that good composers of *organum* combine notes to produce the kind of pleasure, ornamentation or beauty inherent in this art. For this reason, there are different ways of writing melodies for each part. Thus, some people add a section of *organum purum* to a section with a better-known ending. For the same reason, they add two or three sections of *organum* at the beginning, forming good consonances similar to the more usual openings. This section, which precedes the *longa* rest, is displayed quite ostentatiously, as is usual in *organum purum* and similar compositions. Sometimes, they even go further, as is shown, for example, in various *tripla,* or in examples extracted from them.

Chapter Seven

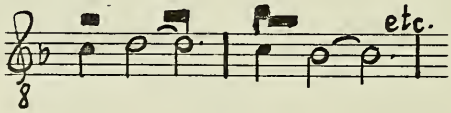
Concerning Irregular Modes

The seventh chapter of this treatise concerns itself with irregular modes, which are called voluntary modes (*id est,* they may be chosen *ad libitum*), and there are many of these. The first of these begins with a *longa duplex* (of five durational units) followed by a *semibrevis* (= a *brevis recta* of one durational unit), or a (*longa*) *minima* or diminished *longa* (*longa recta* of two durational units), and continues with such *breves* and *longae*. This is shown in the *Alleluia* V *Posui adiutorium* (M 51), where the following succession of notes is found as the *copula*: *f* *longa duplex, f e* ligated, *f d* ligated, *e d* (ligated), *d f* (ligated), *g f* (ligated) with *plica, d c* with *plica, a, a longa duplex* ligated to *c*; this is the first irregular mode, and this occurs quite often in *organum purum*.



The second irregular mode has a *brevis parva* or *brevis minima* (of one durational unit) with a *longa duplex*, or ligated to a *longa* which occupies an excess of time. Then, you have the same *brevis* and continue with the same *longa* etc.

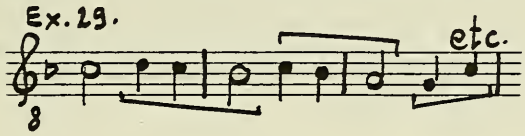
Ex. 28



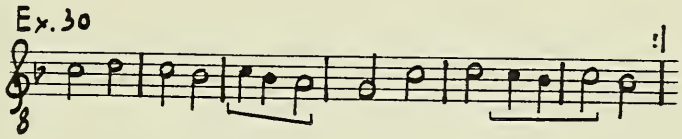
Coussemaker p. 361a25 to p. 361b24

The third irregular mode has a *longa minima* with two *longae tardes*, which are irrespective *breves*; the third *brevis* is a *brevis mediocris*, which produces an excellent result when ligated. Then, there is a similar group of three ligated notes proceeding in the same fashion [1].

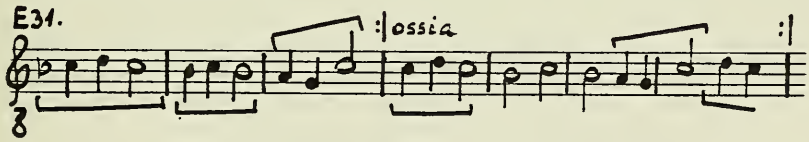
There is another kind of irregular mode which exhibits a major degree of divergence, and this has a *longa* and three ligated notes, as stated above; and then, another three of which the first two are *breves minimae* and the third a *brevis mediocris*, or the final one is a *longa* (*minima*), and then you continue with three more similar ones etc.



Finally, there is another major variant, namely: a *longa minima* and three (*breves*) *mediocres*, as stated above; then three fast ones, except for the last, which is a (*brevis*) *mediocris*, then three *mediocres* and three *festinantes*.



The fourth irregular mode consists of three (*breves*) *festinantes*, as stated above, although the last note is a *longa minima*, and then three more (*breves*) *festinantes*, continuing this pattern over and over again etc. Again, you could have three (*breves*) *festinantes*, as stated above, and three (*breves*) *mediocres*, and then you could continue with (*breves*) *festinantes*; or you might often mix (*breves*) *festinantes* with (*breves*) *mediocres* etc.

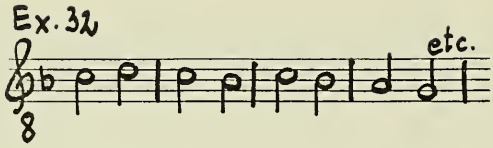


There is another arrangement of *breves mediocres*, whereby the final note of the three is a *(longa) minima*. This finess is understood as yielding identical patterns.

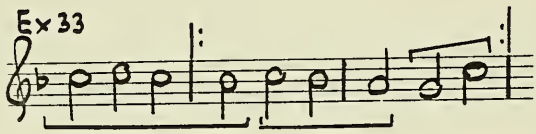
The fifth irregular mode has a (*longa*) *minima* and many, that is three, four or five *longae mediae*, although the next-to-the-last note will be a (*longa*) *minima*. Use as many as you wish, or as many as will fit according to the requirements of any of the above-mentioned modes.

———— Coussemaker p. 361b25 to p. 362a18

1) Niemann p. 91ff. has apparently missed the point that the irregular modes follow the pattern set by the regular modes. Thus, the first and second modes are distinguished by the fact that the *longae duplices*, which may have five



The sixth irregular mode proceeds in this fashion: four ligated notes and three ligated notes, and three ligated notes etc. All of the notes are *breves mediocres,* although the next-to-the-last note of the four liagted notes is a (*longa*) *minima,* and each of the next-to-the-last notes of the three ligated notes is also a (*longa*) *minima.* This mode may be diversified in many ways, as has been shown, and according to the seven gifts of the Holy Ghost.



The seventh mode is the most notable and dignified, and follows any predilection or desire; this is a mixed or common mode, and consists entirely of groups of twos, threes and fours etc., and properly speaking it is identifiable with *organum purum et nobile.*

It should be noted, that the irregular modes, which have just been or will be discussed, are sufficient for the understanding of the durational values involved in *organum purum.* Again, it should be noted, that as far as the method of notating this music is concerned, the explanation given suffices, as shown above. The notation of these modes is identical with that of the regular modes, although occasionally there are differences in some of them.

Rests can be used quite arbitrarily, according to what the singer or performer finds better. He can shorten, lengthen or make them more moderate. *Longae duplices* are rarely found in *organum purum.*

The consonances of *organum purum* are the usual ones: unison and octave, fourth and fifth, minor and major thirds. These are the best consonances, and are called perfect, imperfect and middle ones, as explained in the chapter concerned with consonances. The secondary ones are the five not formed with the unison; they include the double octave, which corresponds harmonically to the quadruple proportion; the 12th, which is the triple proportion; the 11th, which is the double *sesquitertia* ; major and minor 10th, as they were named above in the chapter which concerned itself with these things. Thus, we get six and five consonances, which make eleven.

Again, there are those consonances which are most distant, such as the minor and major seventeenth, the perfect eighteenth, and the perfect nineteenth, which must be transposed for some, but not for all men. Thus, there are ten and nine strings in the compass of the diatonic genus, whereas the number of consonances is fifteen.

Coussemaker p. 362a19 to p. 362b24

durational units, supplant the normal *longae.* The third and fourth modes correspond to the regular third and fourth modes, only the theorist has difficulty

Others even go beyond this, although this is rare, proceeding to the triple octave, although this is in common use only with the organ as an instrument; other instruments go beyond this, as *exempli gratia* a number of string and pipe instruments. These instruments sound good with the cymbals, as are kept by good musicians.

The *longae* and the *breves* are recognised in many ways and manners in *organum purum*. According to one method, all initial notes form one of the afore-mentioned consonances. Before this, there will be a *longa parva*, a *longa tarda*, or a *longa media*, and this will be found in any ligature of two or three notes etc.

This, however, is the difference; if these *longae* form a consonance, the tenor will be sounded; if they do not form a consonance, the tenor will not be sounded. In this case, the following note will be long, and will form a consonance.

Again, all notes immediately before a *longa* rest, as at the end of a period or clausula, will be long.

Every next-to-the-last note which is similarly conceived of as long according to the mode, will sometimes form a consonance, sometimes not.

Of two notes, if the first forms a consonance, it is long; if it forms a dissonance, it is short in so far as it is found in a neutral position and not the next-to-the-last note.

Again, of two notes, if the latter one forms a consonance, it is long; if it forms a dissonance, it is reduced in quantity.

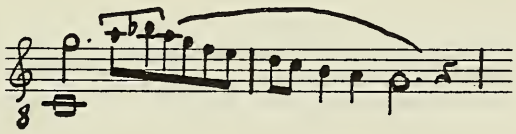
Again, of every group of three notes, the first note is long, if it forms a consonance; if not, it isn't. Every second note of the three is long, if it forms a consonance, otherwise it is not, and it is long, if it is the next-to-the-last note. Every last note of three is long, if it forms a consonance, short if it forms a discord, except when it is the next-to-the-last note, where it is long.

If there are four notes together, the first, second, third or fourth note will be long, to the extent that it forms a consonance, short if it forms a dissonance.

If two notes have the same pitch, they may or may not form consonances, and together they form a *longa florata*.

Notae currentes may also be used with the preceding, as in *Viderunt*, (Waite p. 67 m. 27-28) where eleven notes follow a certain extraneous pattern. They are not concerned with forming consonances with other notes, or do not all attempt this equally. They move downwards quite rapidly. If the first figure is a *nota currens*, then the first, second or third note before it will also be one.

Ex. 34



Coussemaker p. 362b25 to p. 363a34

in expressing these time values, using terms such as *minimae* and *festinantes* to indicate shorter forms of the respective *longae* and *breves*, and *mediocres* to indicate a longer form. If, however, the third, fourth, fifth and sixth modes are irregular, then only because of the distribution of durational values. Since these irregular modes are identified with the English (as *exempli gratia* Coussemaker p. 346b), it is quite reasonable to assume that they represent modes in binary rhythm, and they have been transcribed accordingly. Perhaps such modes were also represented in *organum purum!*

In this particular descent, the rhythmic pattern will begin not with the previous note, but rather with the note before this one, despite the fact that this is a *longa* (in form). The first note previous, even though it moves upwards, will also be a *nota currens,* whereby there are twelve *notae currentes,* rather than eleven. The second note preceding is a long note which is found on the consonance of the fifth. If, however, it did not form a consonance, it would still be long, for the tenor would be silent, since every note which directly precedes, or which is two or three before, is of necessity long, as if it were to prepare for it to descend, or for its descent.

This is notated in a simple fashion in vocal music, but this is not necessary for instruments. We can regard *notae currentes* which rise and fall, or fall and rise in pitch etc. together with their antecedent or antecedents in a similar fashion.

Again, *longae* are quite often used for reasons of ornamentation, or beautification of the melody, and sometimes they form consonances, and sometimes not, as is often shown in performance.

Again, there is a *longa duplex florata,* and this is found at the beginning: *In nomine sanctissimi alpha,* and is called the beginning before the beginning and always forms a consonance.

Again, some persons put two and three ligated notes in the place of one. The first of these can either form a consonance or a discord, and it begins shortly before the tenor does, and the tenor enters with the second note, if it forms a consonance with this, otherwise with the third note. This third note is then drawn out, as we stated before, with a flourish. Others will even put three or four ligated notes before the beginning of the tenor. If the last note forms a consonance, the tenor will begin at this point. If the note forms a discord, then the tenor will begin with the first consonance which follows. Thus, it comes to the same result, if there is a modulation of the melody with any sort of appropriate beauty or ornamentation; the same thing may be said of the beginning before the beginning.

The final section *In nomine sanctissimi* can be completed in many different fashions. Some persons finish the composition with a single note on the octave, unison or fifth, rarely, however, on the fourth except in string music, and even more rarely on a major or minor third, as done by the men from the West (*id est,* the *Westcuntry* in England). All of these consonances, however, may be used at the beginning.

There are others who sometimes use a consonance, sometimes a dissonance on the next-to-the-last note before an octave.

There are others, who put one, two, three or more dissonances before the next-to-the-last note, as long as they sound good together in one or several ways, as long as this does not extend too far, and reach to the end.

There are also certain good composers of polyphonic music, who are happy to put dissonances in penultimate position in preference to consonances etc. Examples of this are found throughout books of *organum.*

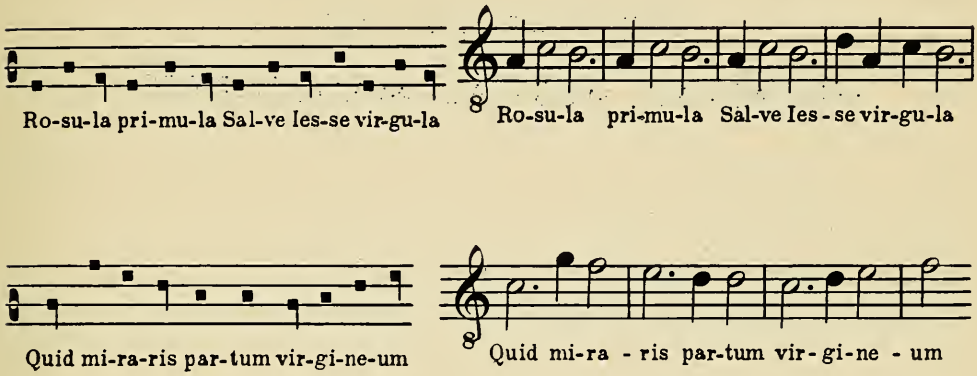
Whatever occurs between the above-mentioned beginning and ending is considered as mediation.

In the Name and Honour of the Holiest Mediator of all, who is the True Saviour Iesus Christ, to whose glory we may all come with the most Holy. *Explicit.*

Coussemaker p. 363a35 to p. 364b10

Addendum to p. 44 footnote 2

The difference between the third and fourth modes is that in the third mode the *longa* begins the double perfection, and in the fourth mode the *brevis*, as in the following examples, cited by Robert de Handlo (Coussemaker p. 401):



Since the consonances will normally fall on this part of the perfection, and since any accents will also normally fall on this part of the perfection, it is quite important to establish a distinction between these two modes. The constant repetition of *ordines*, however, will finally result in a shift to the third mode, as above in Example 6, page 16, where the longer note becomes coïncidental with the beginning of the double perfection.

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